#WWDC19

Creating Great Localized Experiences with Xcode 11

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Vivian Robison, Software Engineer
Arthur Rayer, Software Engineer

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Agenda

New localization features

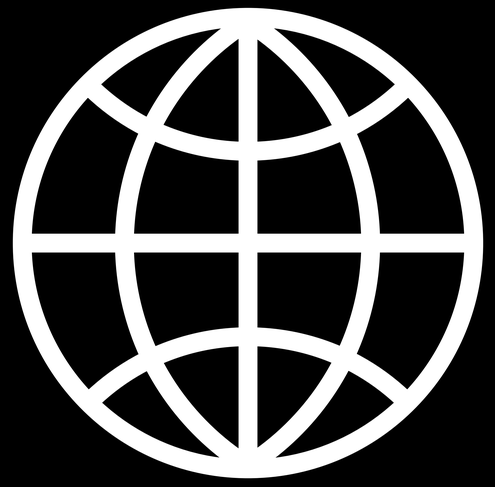
Localization workflow improvements

Localizing images

Localized screenshots with XCTest

70%

Apple users outside the US



Redesigned Handwriting
for Chinese

Language Detection
for Dictation

Bilingual Dictionaries
for Thai and Vietnamese

Auto-Spacing
for Chinese

Bilingual Keyboard
for Hindi-English

Localized Relationships
in Contacts

New Keyboards
for 38 Languages

Siri Voices
for Indian English

Language Setting
per App

Enhanced Language Setup
for Multilingual Users

New Fonts
for Indian Languages

Predictive Input
for Arabic, Cantonese, Dutch,
Hindi, Swedish, and Vietnamese

Easier Switching
between Keyboards

shqip
অসমীয়া
बर'
မြန်မာဘာသာ
廣東話
ئۇيغۇر
डोगरी
Føroyskt
كۆشۇر
कॉशुर
қазақша
ภาษาไทย
कोंकणी
Kurdî

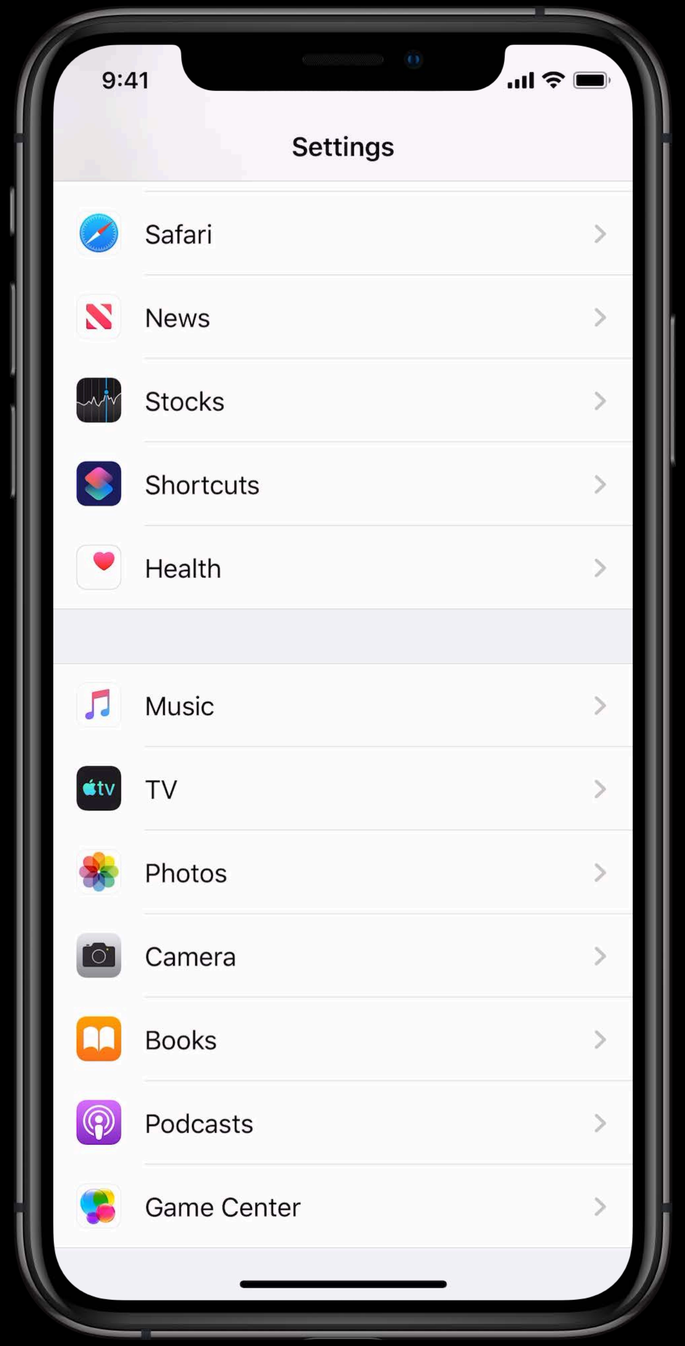
NEW

Монгол хэл
नेपाली
پښتو
संस्कृतम्
सानताड़ी
ᱥᱟᱱᱛᱟᱲᱤ
سنڌي
सिन्धी
සිංහල
Тоҷикӣ
lea fakatonga
Türkmençe
ئۇيغۇرچە
اوزبيكچه
ўзбекча
o‘zbekcha

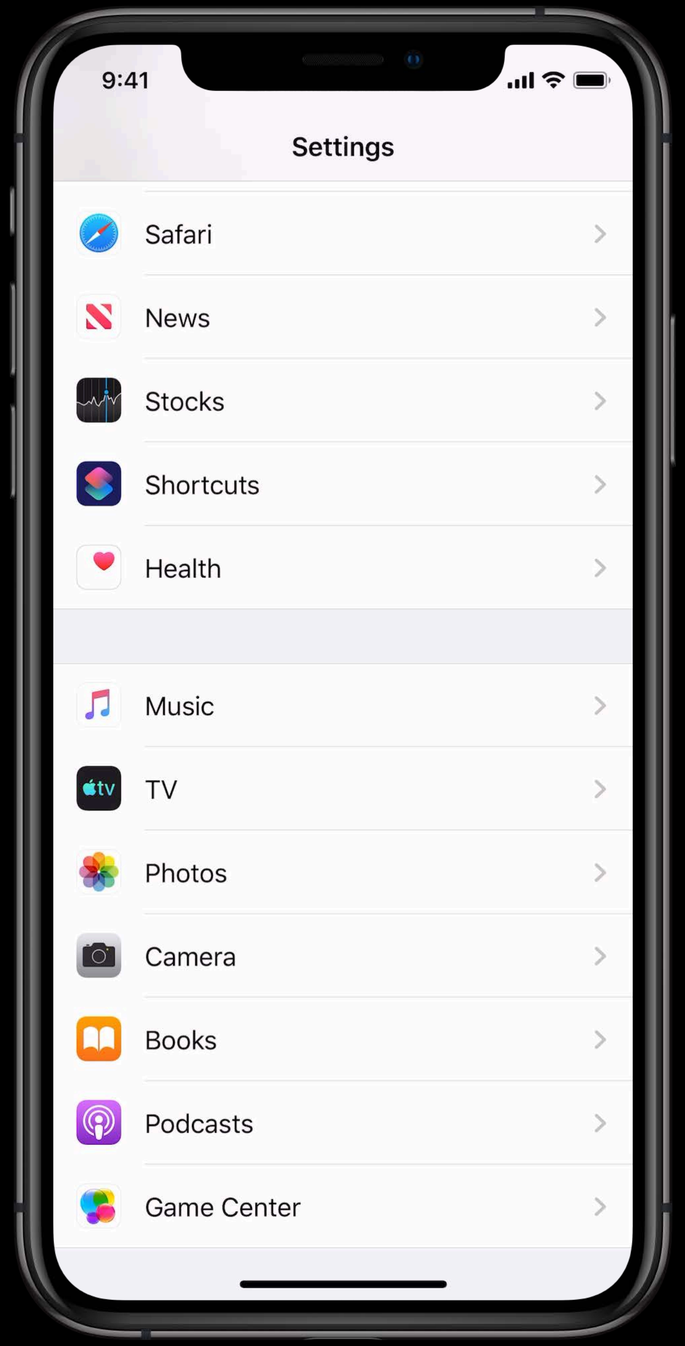
NEW

9:41
Back
Written and Spoken Languages
The following languages are commonly used in your region. You can set up your iPhone to use these settings or customise them individually.
Preferred language
English
Kannada
Keyboards
English (India)
ಕನ್ನಡ
Emoji
Continue
Customise Settings

NEW


9:41
Settings
Safari
News
Stocks
Shortcuts
Health
Music
TV
Photos
Camera
Books
Podcasts
Game Center

NEW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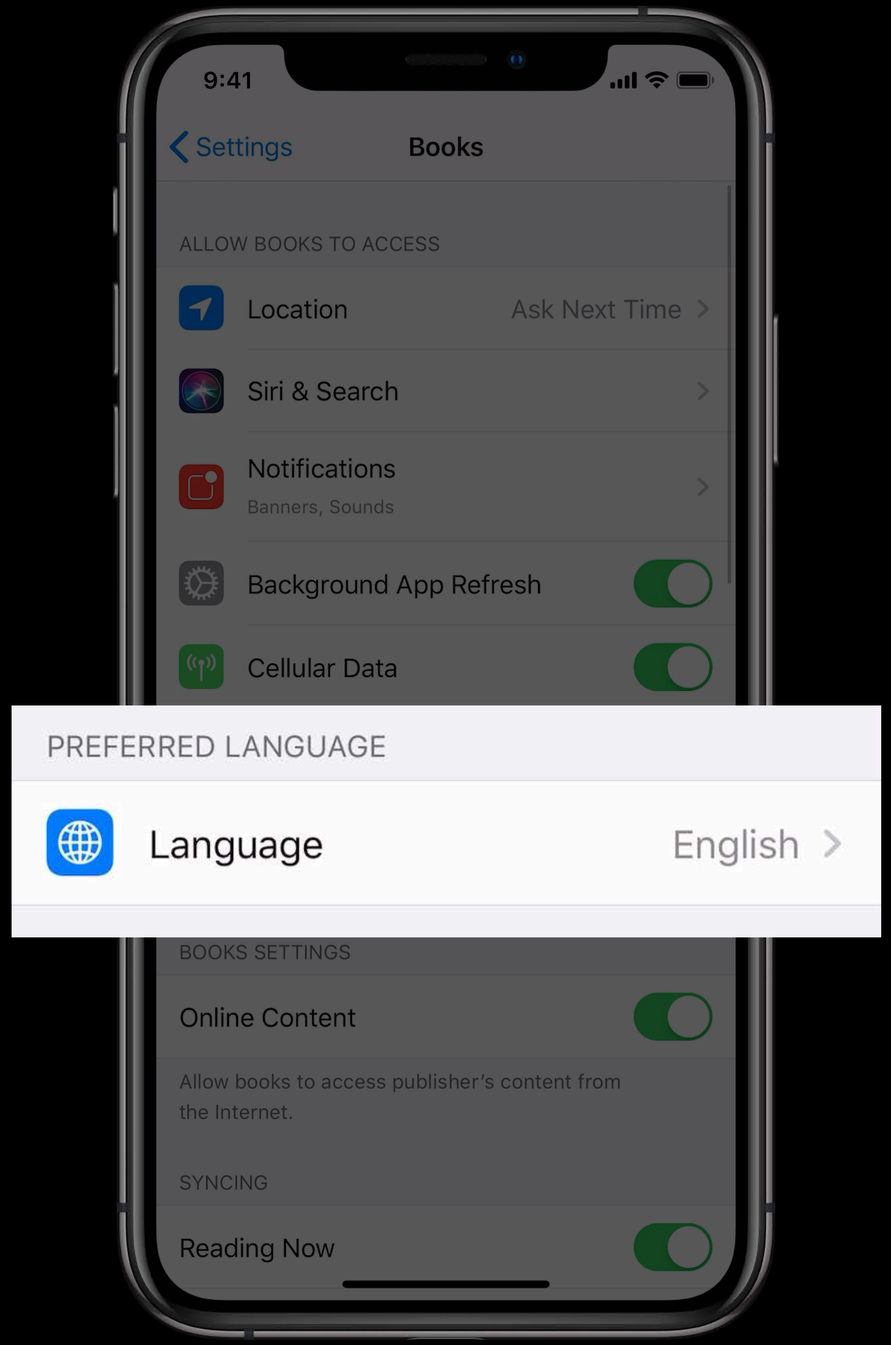
NEW

9:41
Settings
Books
ALLOW BOOKS TO ACCESS
Location
Ask Next Time
Siri & Search
Notifications
Banners, Sounds
Background App Refresh
Cellular Data
PREFERRED LANGUAGE
Language
English
BOOKS SETTINGS
Online Content
Allow books to access publisher's content from the Internet.
SYNCING
Reading Now

NEW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NEW

10:09
Shazam
Language
SUGGESTED LANGUAGES
English
English
Español
Spanish
Shazam will use the first language that it supports from Language & Region settings. You can select a different language for Shazam to use if you prefer.
OTHER LANGUAGES
简体中文
Chinese, Simplified
繁體中文
Chinese, Traditional
Čeština
Czech
Nederlands
Dutch
English (UK)

10:09
Escuchando

NEW

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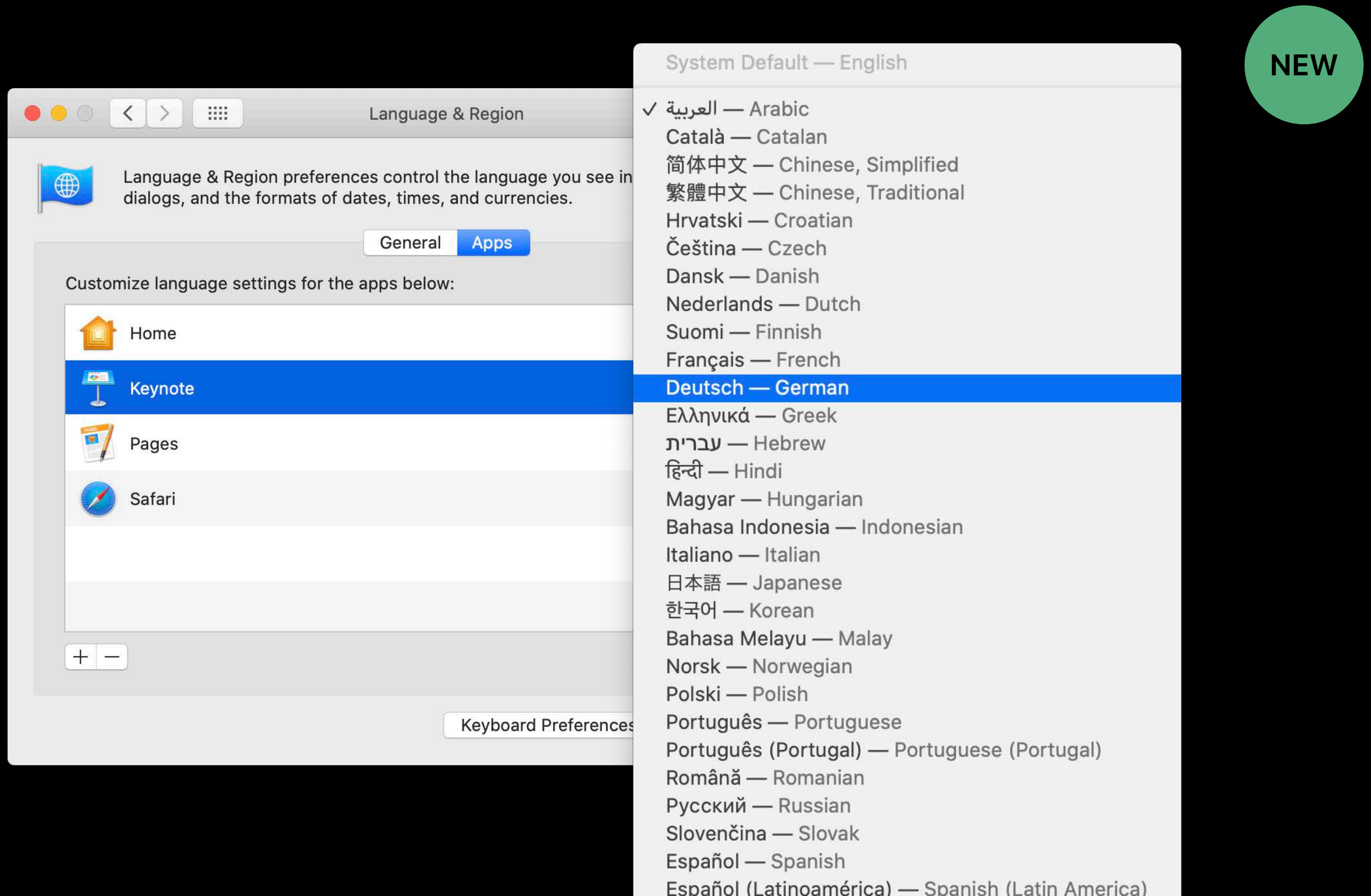
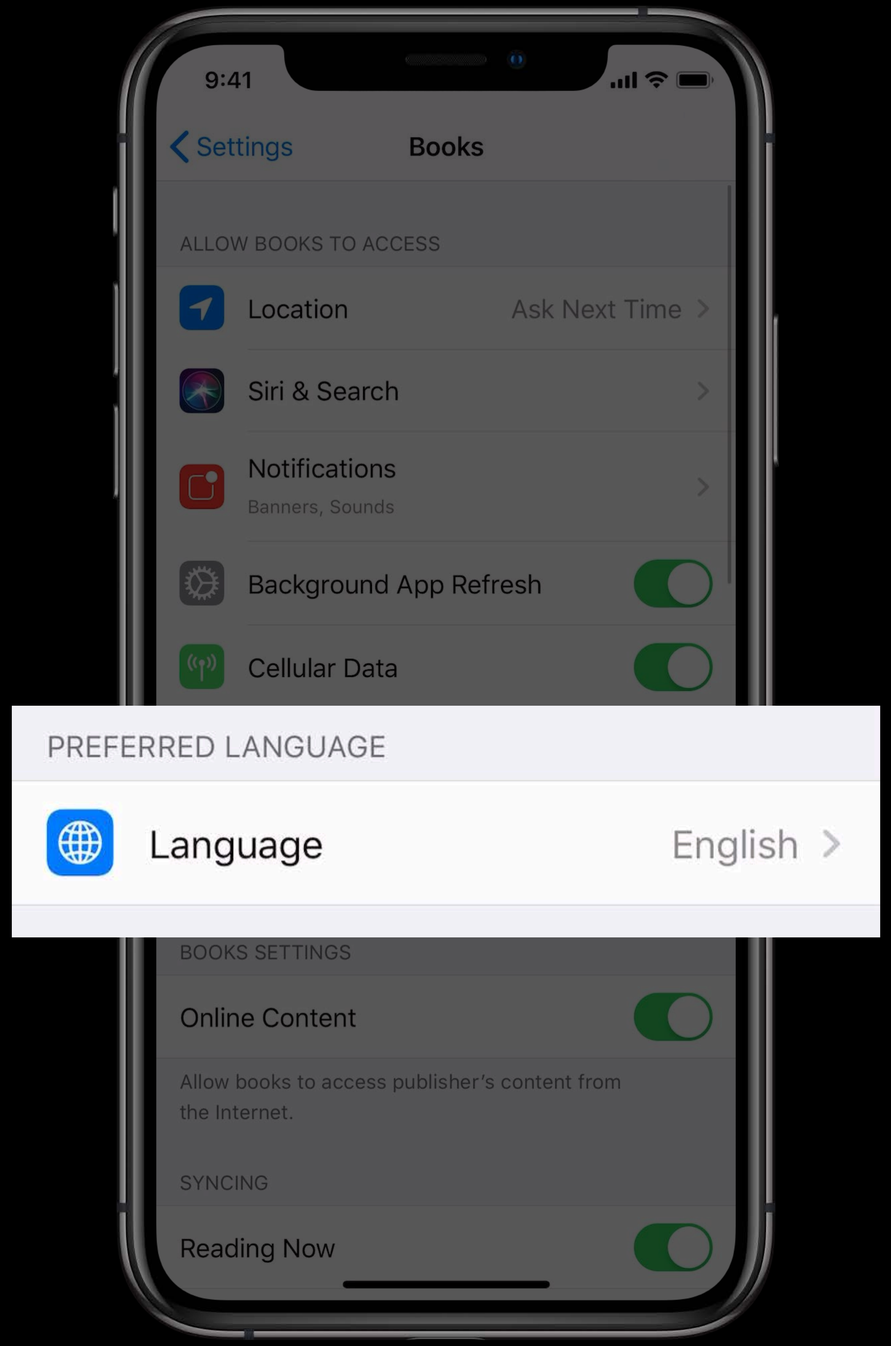

NEW
Language & Region
Language & Region preferences control the language you see in
dialogs, and the formats of dates, times, and currencies.
General
Apps
Customize language settings for the apps below:
Home
Keynote
Pages
Safari
Keyboard Preferences
System Default — English
✓ العربية — Arabic
Català — Catalan
简体中文 — Chinese, Simplified
繁體中文 — Chinese, Traditional
Hrvatski — Croatian
Čeština — Czech
Dansk — Danish
Nederlands — Dutch
Suomi — Finnish
Français — French
Deutsch — German
Ελληνικά — Greek
עברית — Hebrew
हिन्दी — Hindi
Magyar — Hungarian
Bahasa Indonesia — Indonesian
Italiano — Italian
日本語 — Japanese
한국어 — Korean
Bahasa Melayu — Malay
Norsk — Norwegian
Polski — Polish
Português — Portuguese
Português (Portugal) — Portuguese (Portugal)
Română — Romanian
Русский — Russian
Slovenčina — Slovak
Español — Spanish
Español (Latinoamérica) — Spanish (Latin America)

LOOK LEFT
望左
LOOK RIGHT
望右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Launch to Settings

Changing language in code is not supported

Launch to Settings if you need to add a language option within your app:

```
UIApplication.shared.open(URL(string: UIApplication.openSettingsURLString)!)
```

ViewController State Restoration

Changing languages via Settings will relaunch your application

Enable state restoration in your `AppDelegate` with:

```
application(_:shouldSaveApplicationState:)
application(_:shouldRestoreApplicationState:)
```

Set `restorationIdentifier` on controllers to make language switching seamless

Scene State Restoration

NEW

Enable state restoration in your `SceneDelegate` with:

```
stateRestorationActivity(for scene:)
```

Return an `NSUserActivity` object that encodes your scene state

Bundle and Locale APIs

Content should be consistent in one language throughout your application

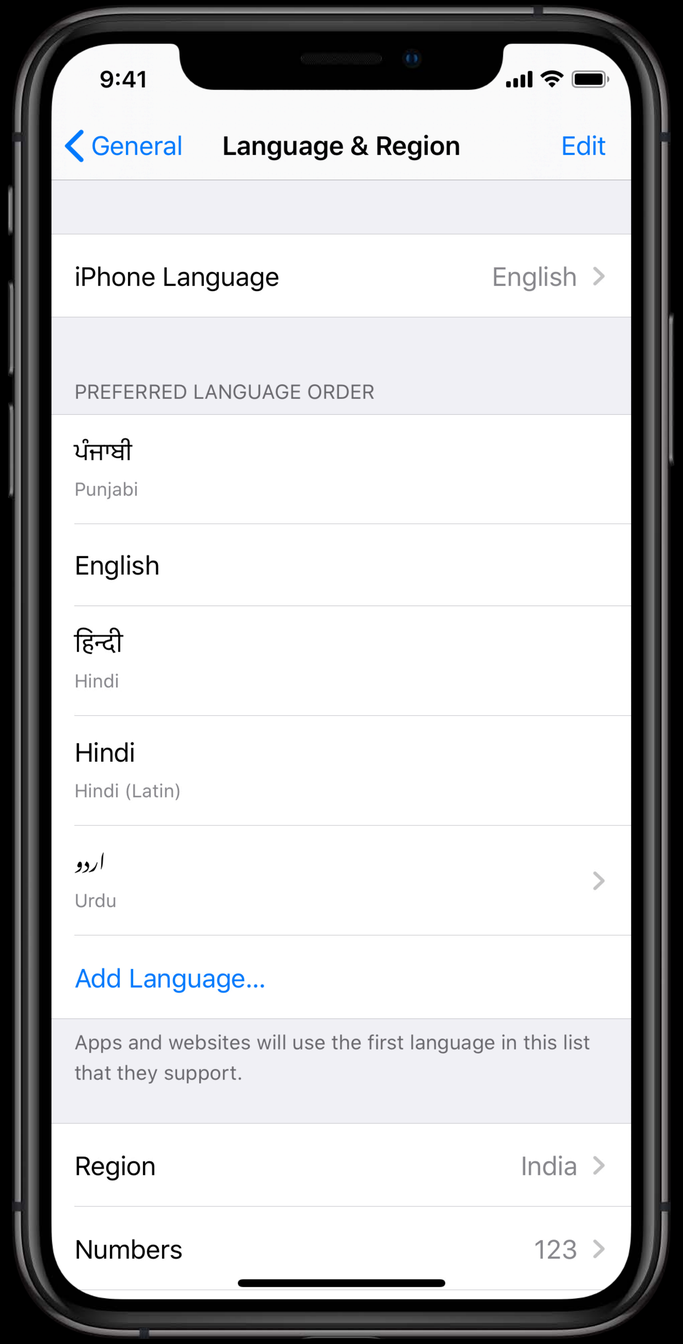
Use Locale or Bundle APIs for custom or server-side resource loading:

```
Locale.preferredLanguages

Bundle.main.preferredLocalizations

Bundle.preferredLocalizations(from: availableLanguages)
```

Locale APIs for Language Preference

Get a list of languages in order of user preference:

```
// Example: ["pa-IN", "en-IN", "hi-IN", … ]

Locale.preferredLanguages
```



Bundle APIs for Language Matching

Get the current running application language:

```
Bundle.main.preferredLocalizations.first
```

Bundle APIs for Language Matching

Get the current running application language:

```
Bundle.main.preferredLocalizations.first
```

Get the best language, given an external language code list:

```
let availableLanguages = Server.requestAvailableLanguages()

Bundle.preferredLocalizations(from: availableLanguages).first
```

Demo

App language setting

App Language Setting

App Language Setting

Launch to Settings to switch languages

App Language Setting

Launch to Settings to switch languages

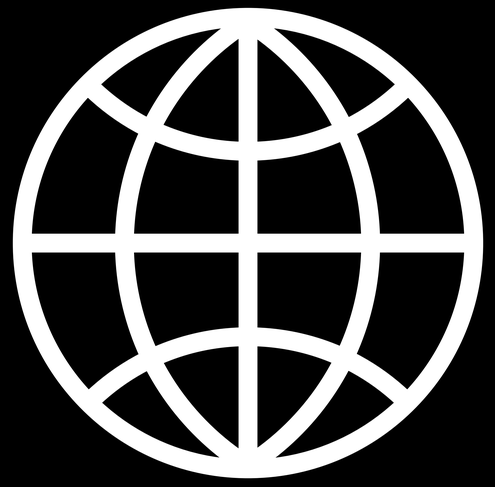
Restore state when your app is relaunched

App Language Setting

Launch to Settings to switch languages

Restore state when your app is relaunched

Load custom resources with `Locale` or `Bundle` APIs



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between Keyboards

Localization Enhancements in Xcode

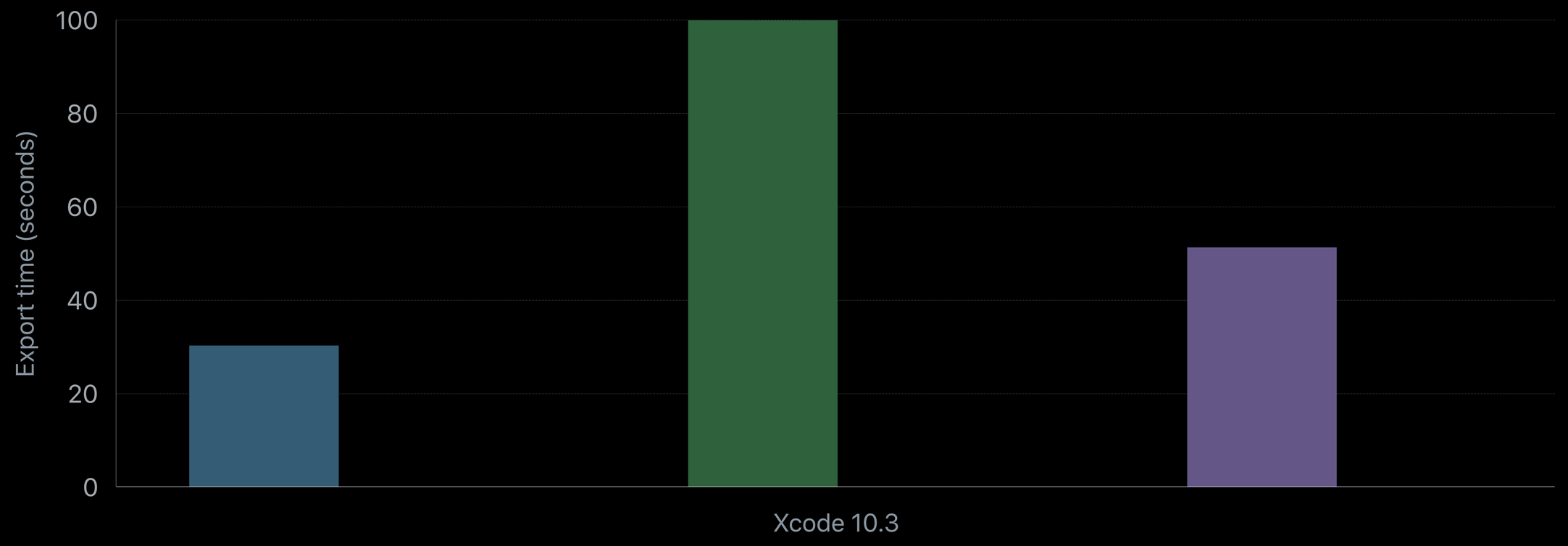
Vivian Robison, Software Engineer

Performance

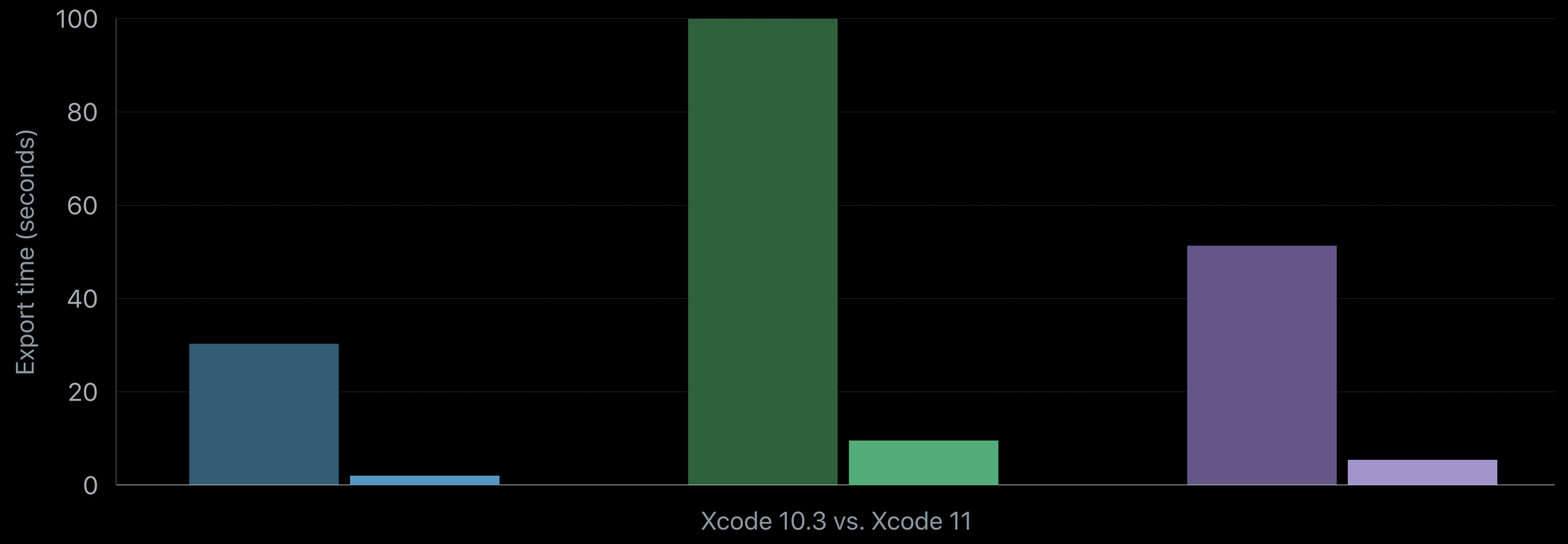
15x

Faster export of Interface Builder files for localization

Export-Import Localization Performance



Export-Import Localization Performance



Export-Import Localization Performance

Export-Import Localization Performance

The more Interface Builder files, the bigger the improvement

Export-Import Localization Performance

The more Interface Builder files, the bigger the improvement

No need to call `genstrings` or `ibtool` directly

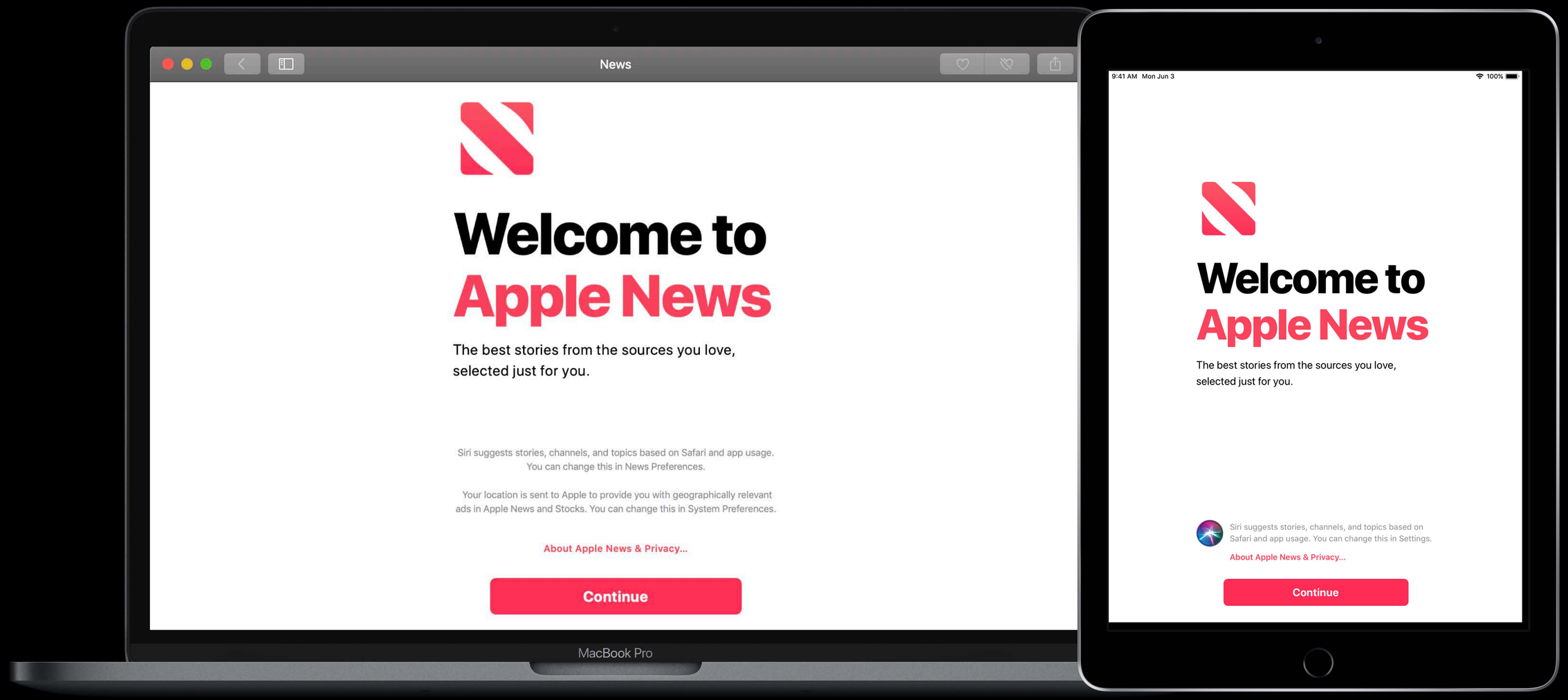
Export-Import Localization Performance

```
$ xcodebuild -exportLocalizations -project <projectname> -localizationPath <dirpath>
[[-exportLanguage <targetlanguage>] ...]
```

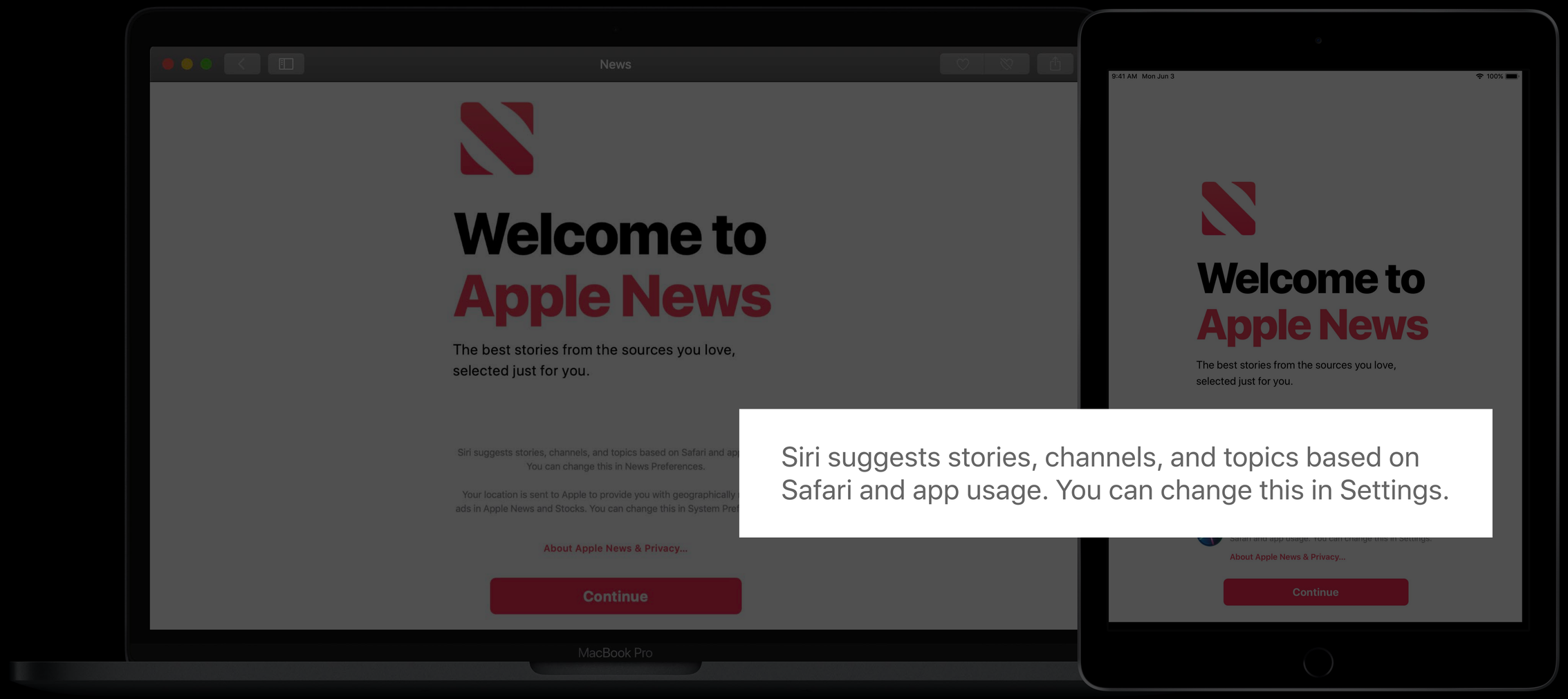
```
$ xcodebuild -importLocalizations -project <projectname> -localizationPath <locale.xcloc>
```

iPad Apps for Mac

Device-Specific Strings

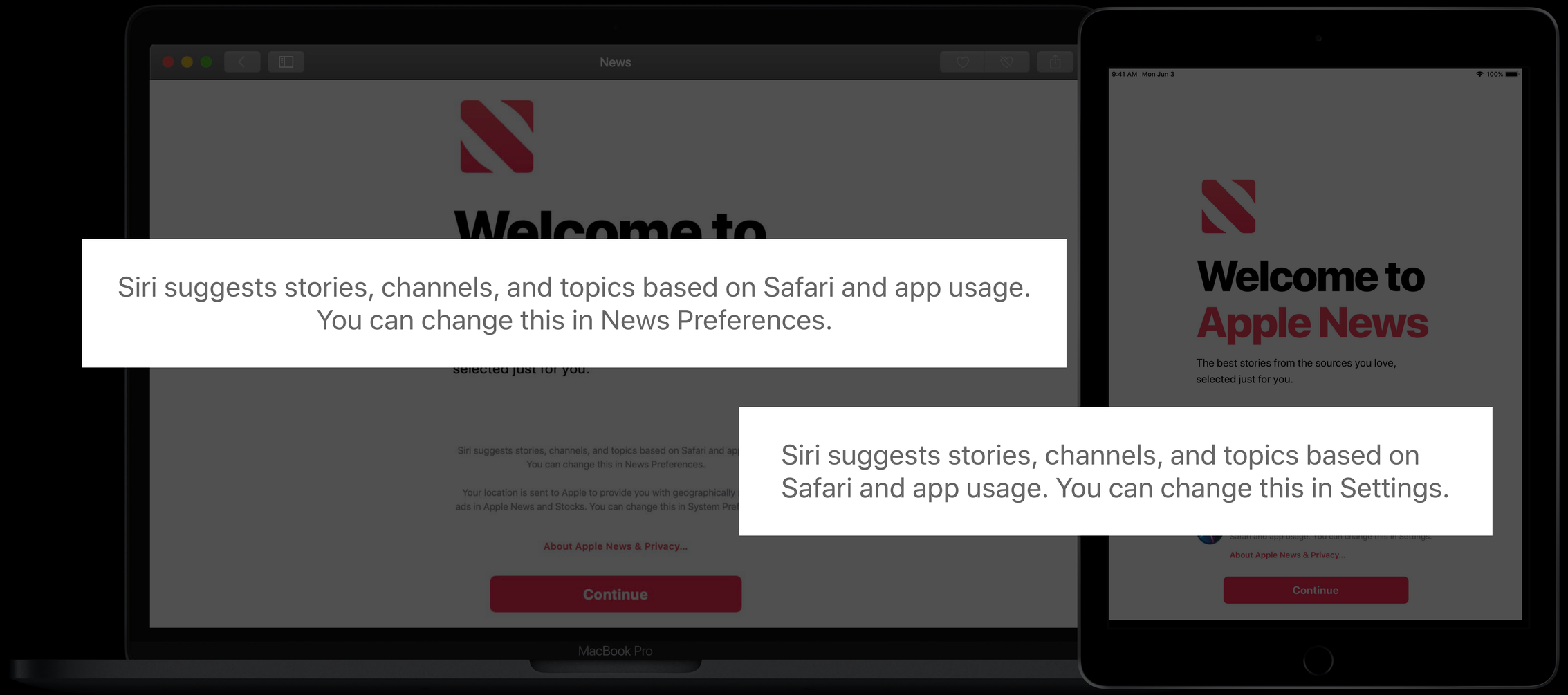


Device-Specific Strings



Siri suggests stories, channels, and topics based on Safari and app usage. You can change this in Settings.

Device-Specific Strings



Device-Specific Strings

Device-Specific Strings

One `NSLocalizedString()` call in code

Device-Specific Strings

One `NSLocalizedString()` call in code

Device-specific strings defined in the `.stringsdict`

Device-Specific Strings

One `NSLocalizedString()` call in code

Device-specific strings defined in the `.stringsdict`

Can be combined with plural and variable width rules

Device-Specific Strings

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
  applewatch
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
  applewatch
  ipad
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
  applewatch
  ipad
  iphone
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
  applewatch
  ipad
  iphone
  ipod
```

Device-Specific Strings

```
NSStringDeviceSpecificRuleType
  appletv
  applewatch
  ipad
  iphone
  ipod
  mac
```

Device-Specific Strings

NEW

VacationPlanet 〉 VacationPlanet 〉 device.stringsdict 〉 No Selection

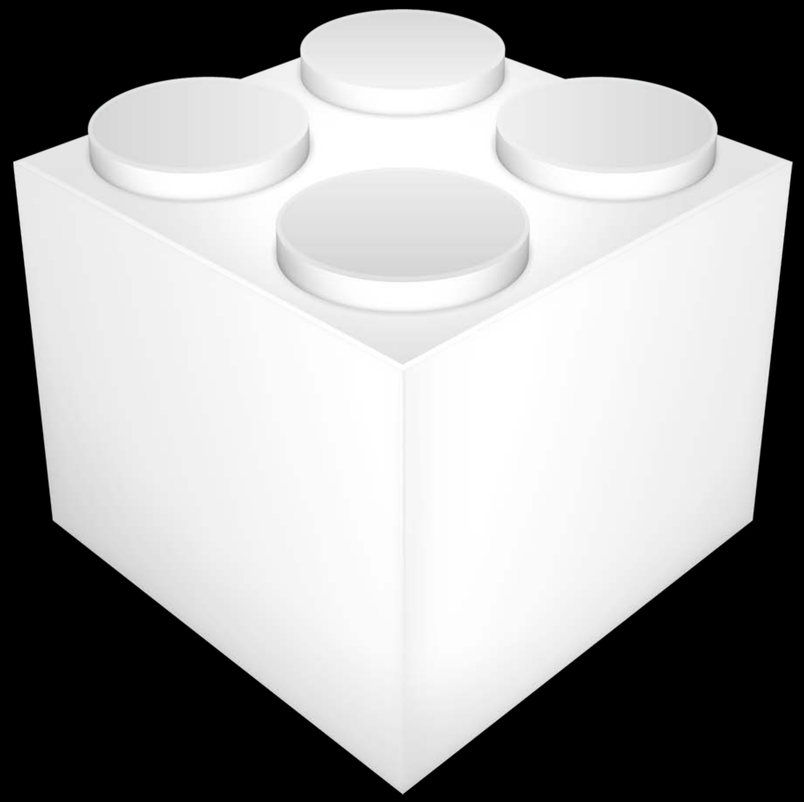
Key	Type	Value
▼ Strings Dictionary	Dictionary	(1 item)
▼ UserInstructions	Dictionary	(1 item)
▼ NSStringDeviceSpecificRuleType	Dictionary	(3 items)
iphone	String	Tap here
mac	String	Click here
appletv	String	Press here

Settings Bundle

Settings Bundle

NEW

Can export and import for localization

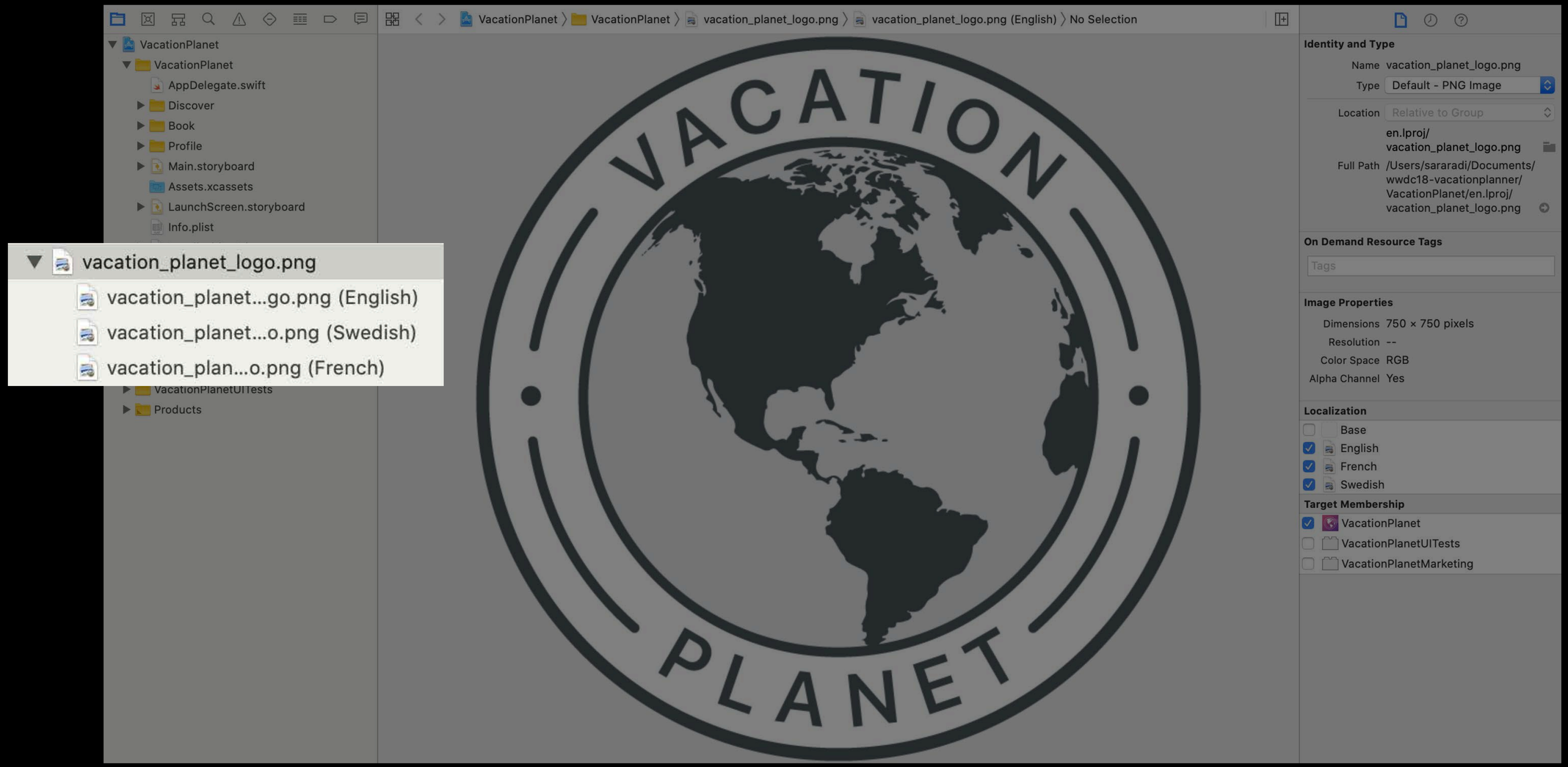


Assets

Assets

VacationPlanet
VacationPlanet
AppDelegate.swift
Discover
Book
Profile
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
Localizable.strings
Localizable.stringsdict
vacation_planet_logo.png
vacation_planet...go.png (English)
vacation_planet...o.png (Swedish)
vacation_plan...o.png (French)
Settings.bundle
VacationPlanetUITests
Products
VacationPlanet 〉 VacationPlanet 〉 vacation_planet_logo.png 〉 vacation_planet_logo.png (English) 〉 No Selection
VACATION
PLANET
Identity and Type
Name vacation_planet_logo.png
Type Default - PNG Image
Location Relative to Group
en.lproj/
vacation_planet_logo.png
Full Path /Users/sararadi/Documents/
wwdc18-vacationplanner/
VacationPlanet/en.lproj/
vacation_planet_logo.png
On Demand Resource Tags
Tags
Image Properties
Dimensions 750 × 750 pixels
Resolution --
Color Space RGB
Alpha Channel Yes
Localization
Base
English
French
Swedish
Target Membership
VacationPlanet
VacationPlanetUITests
VacationPlanetMarketing

Assets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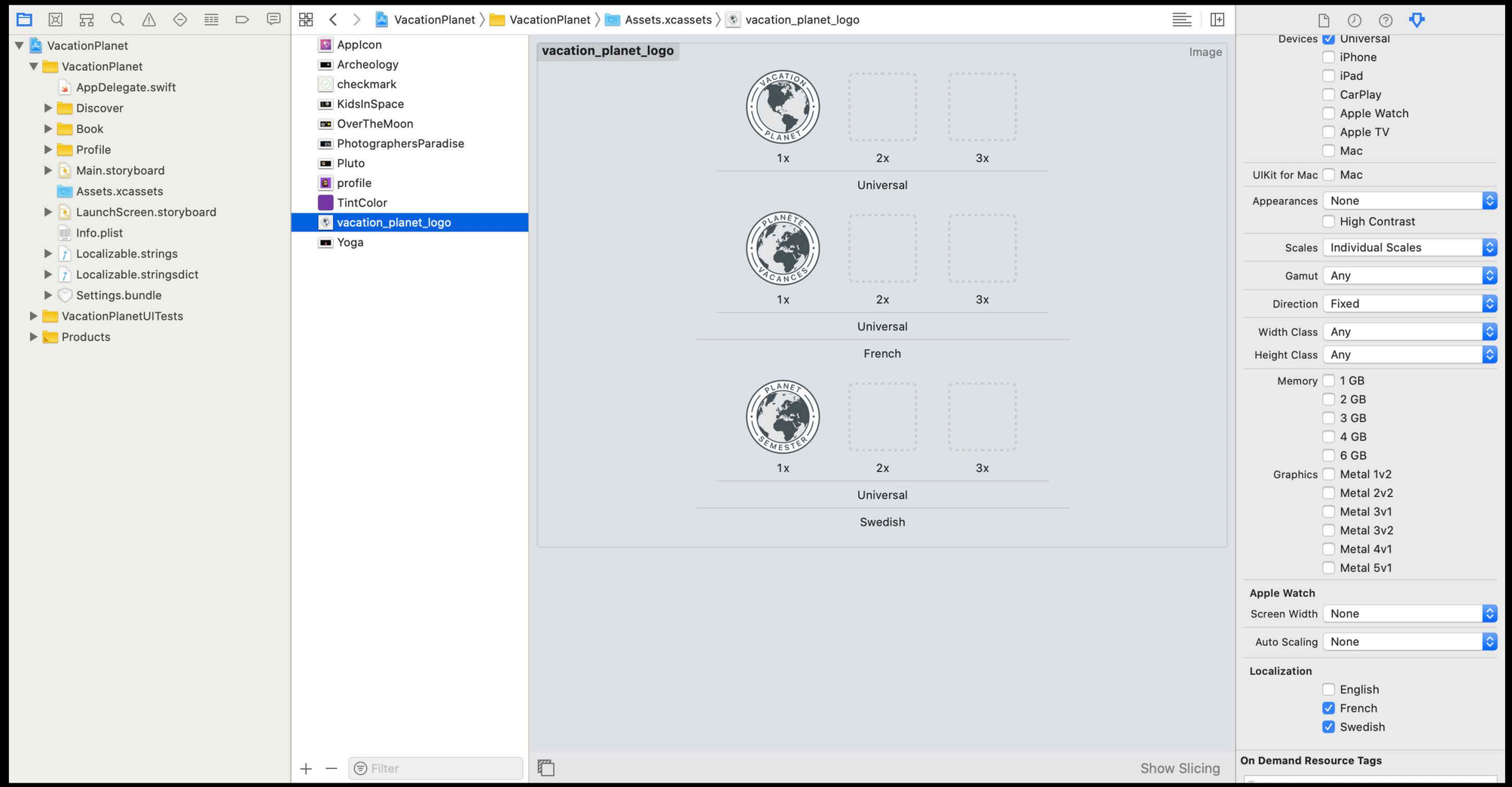
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Archeology
checkmark
KidsInSpace
OverTheMoon
PhotographersParadise
Pluto
profile
TintColor
vacation_planet_logo
Yoga
Filter
vacation_planet_logo
Image
1x
2x
3x
Universal
1x
2x
3x
Universal
French
1x
2x
3x
Universal
Swedish
Show Slicing
Devices Universal
iPhone
iPad
CarPlay
Apple Watch
Apple TV
Mac
UIKit for Mac Mac
Appearances None
High Contrast
Scales Individual Scales
Gamut Any
Direction Fixed
Width Class Any
Height Class Any
Memory 1 GB
2 GB
3 GB
4 GB
6 GB
Graphics Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Apple Watch
Screen Width None
Auto Scaling None
Localization
English
French
Swedish
On Demand Resource Tags

Assets

NEW

Assets

NEW

Image sets

Assets

NEW

Image sets

Watch complications

Assets

NEW

Image sets

Watch complications

Apple TV image stacks

Assets

NEW

Image sets

Watch complications

Apple TV image stacks

Sprite atlases

Assets

NEW

Image sets

Watch complications

Apple TV image stacks

Sprite atlases

Game Center dashboards and leaderboards

Assets

NEW

Image sets

Watch complications

Apple TV image stacks

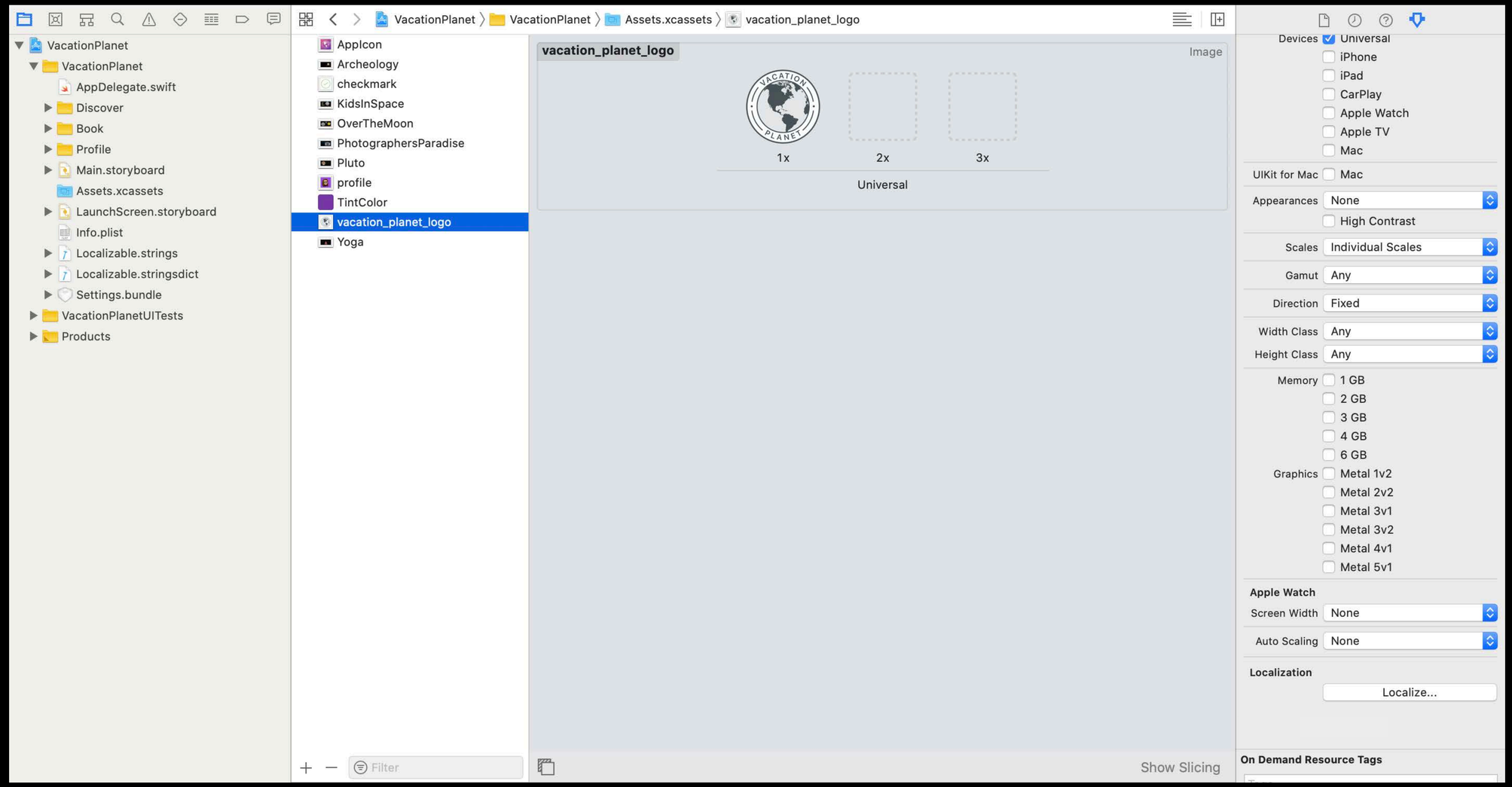
Sprite atlases

Game Center dashboards and leaderboards

Symbol sets

Assets

NEW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Show Slicing
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iPhone
iPad
CarPlay
Apple Watch
Apple TV
Mac
UIKit for Mac Mac
Appearances None
High Contrast
Scales Individual Scales
Gamut Any
Direction Fixed
Width Class Any
Height Class Any
Memory 1 GB
2 GB
3 GB
4 GB
6 GB
Graphics Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Apple Watch
Screen Width None
Auto Scaling None
Localization
Localize...
On Demand Resource Tags

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- VacationPlanetUITests
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- TintColor
- vacation_planet_logo
- Yoga

vacation_planet_logo — Image

1x 2x 3x

Universal

Devices: Universal, iPhone, iPad, CarPlay, Apple Watch, Apple TV, Mac
UIKit for Mac: Mac
Appearances: None
High Contrast
Scales: Individual Scales
Gamut: Any
Direction: Fixed
Width Class: Any
Height Class: Any
Memory: 1 GB, 2 GB, 3 GB, 4 GB, 6 GB
Graphics: Metal 1v2, Metal 2v2, Metal 3v1, Metal 3v2, Metal 4v1, Metal 5v1
Apple Watch
Screen Width: None

Localization

Localize...

Filter

Show Slicing

On Demand Resource Tags

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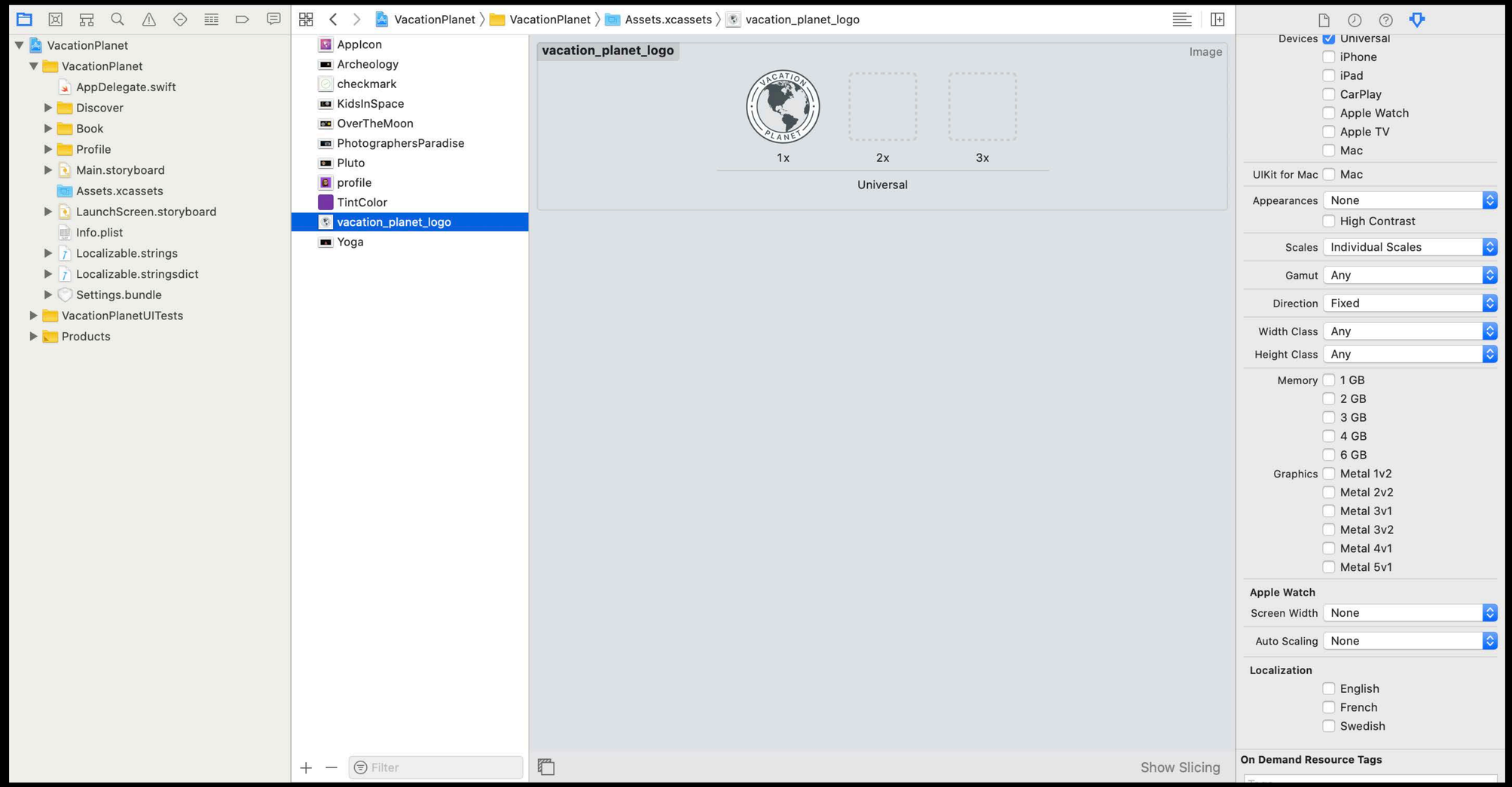
NEW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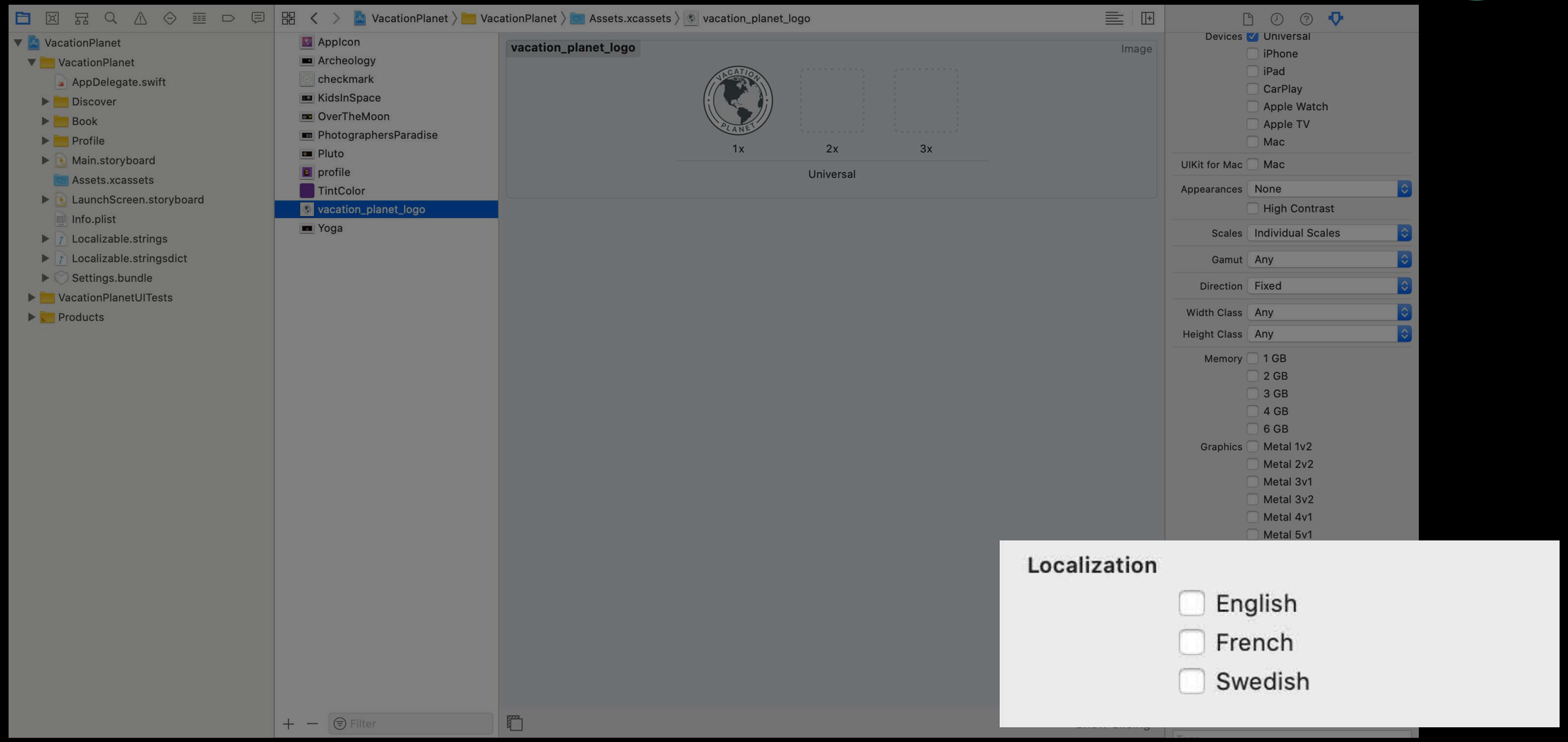
UIKit for Mac
Mac
Appearances
None
High Contrast
Scales
Individual Scales
Gamut
Any
Direction
Fixed
Width Class
Any
Height Class
Any
Memory
1 GB
2 GB
3 GB
4 GB
6 GB
Graphics
Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Apple Watch
Screen Width
None
Auto Scaling
None
Localization
English
French
Swedish
On Demand Resource Tags

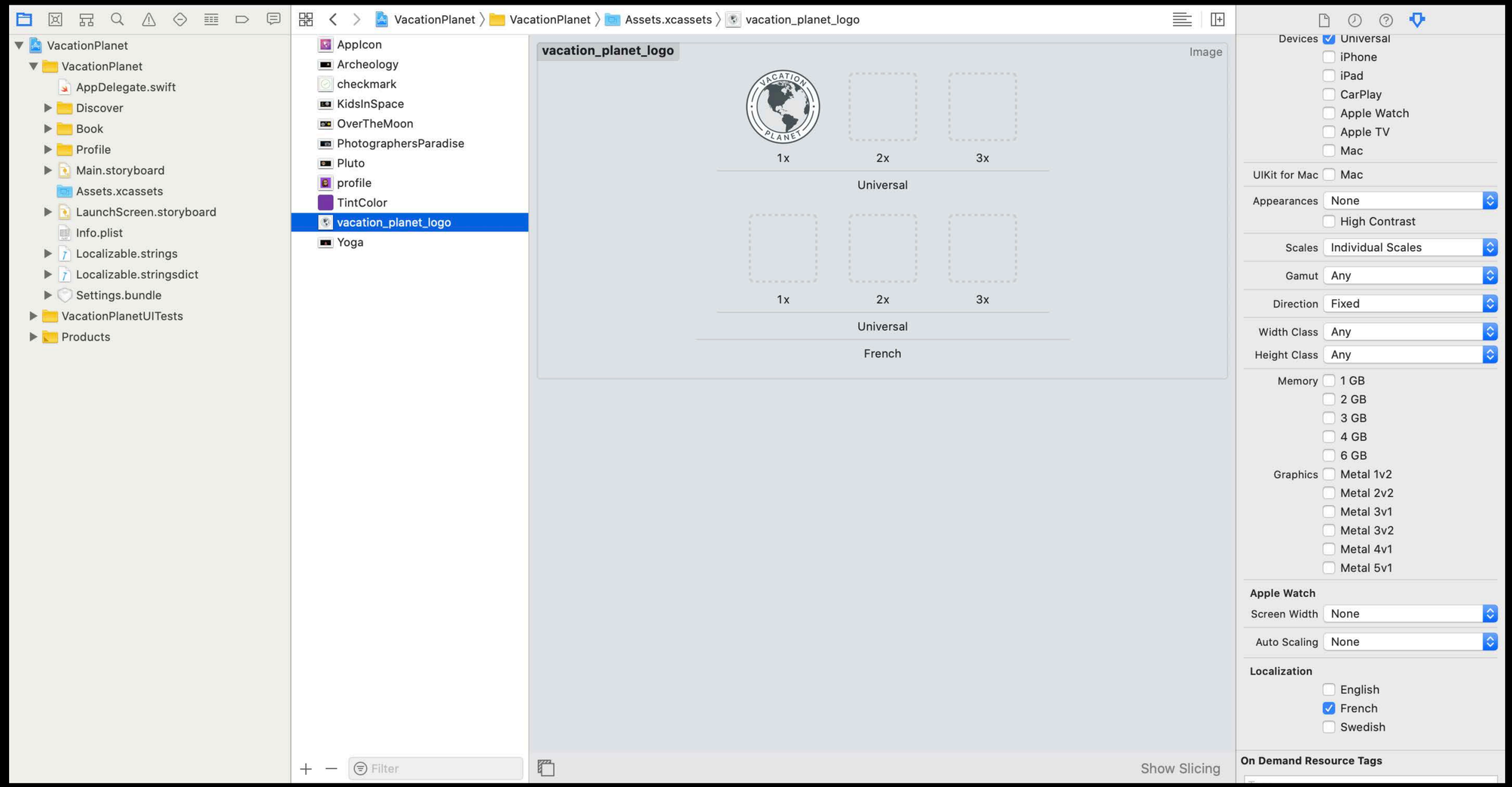
Assets

NEW


VacationPlanet
VacationPlanet
AppDelegate.swift
Discover
Book
Profile
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
Localizable.strings
Localizable.stringsdict
Settings.bundle
VacationPlanetUITests
Products
VacationPlanet 〉 VacationPlanet 〉 Assets.xcassets 〉 vacation_planet_logo
AppIcon
Archeology
checkmark
KidsInSpace
OverTheMoon
PhotographersParadise
Pluto
profile
TintColor
vacation_planet_logo
Yoga
vacation_planet_logo
Image
1x
2x
3x
Universal
Filter
Devices Universal
iPhone
iPad
CarPlay
Apple Watch
Apple TV
Mac
UIKit for Mac Mac
Appearances None
High Contrast
Scales Individual Scales
Gamut Any
Direction Fixed
Width Class Any
Height Class Any
Memory 1 GB
2 GB
3 GB
4 GB
6 GB
Graphics Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Localization
English
French
Swedish

Assets

NEW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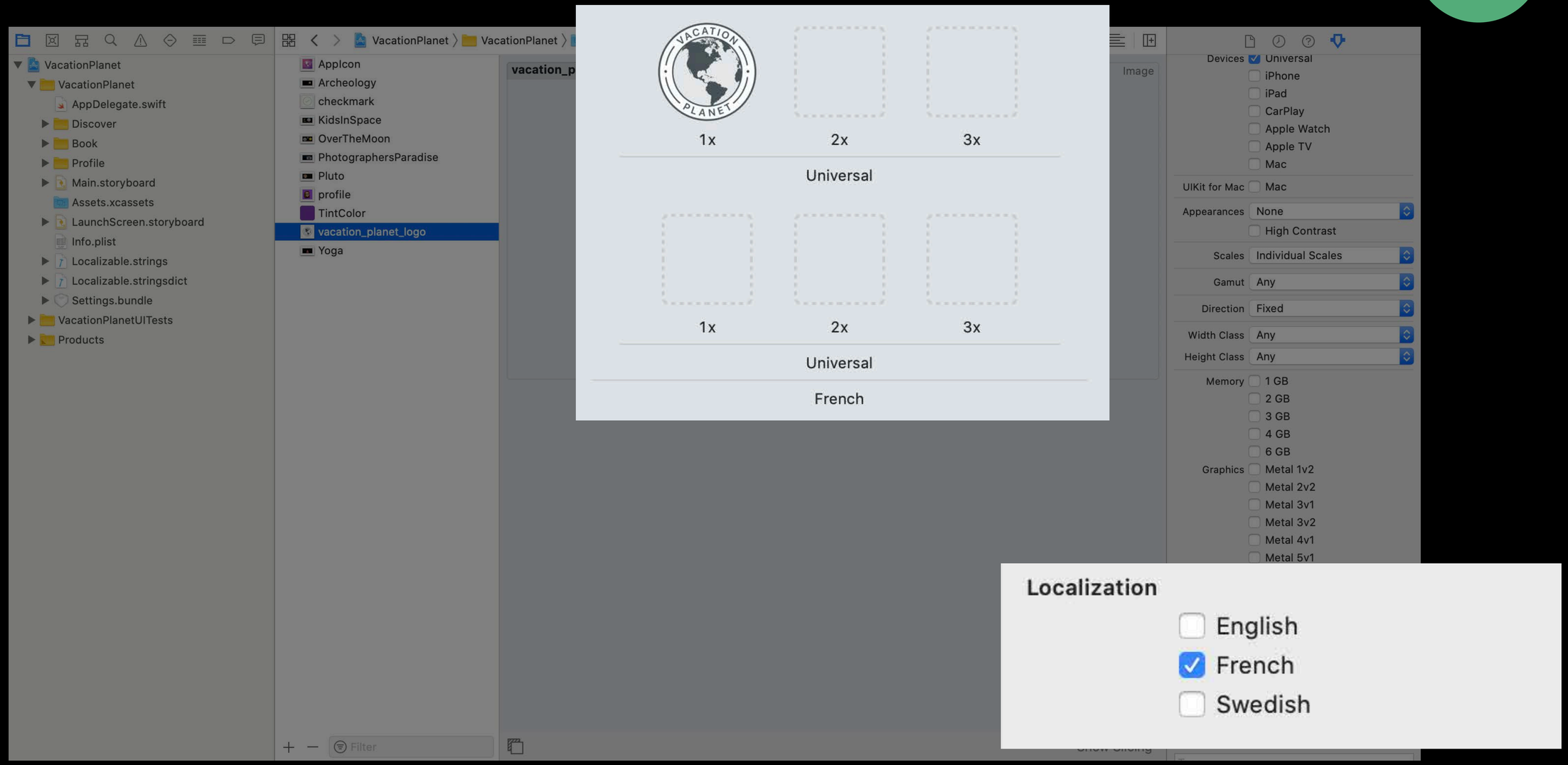
PhotographersParadise
Pluto
profile
TintColor
vacation_planet_logo
Yoga
Filter
vacation_planet_logo
Image
1x
2x
3x
Universal
1x
2x
3x
Universal
French
Show Slicing
Devices Universal
iPhone
iPad
CarPlay
Apple Watch
Apple TV
Mac
UIKit for Mac Mac
Appearances None
High Contrast
Scales Individual Scales
Gamut Any
Direction Fixed
Width Class Any
Height Class Any
Memory 1 GB
2 GB
3 GB
4 GB
6 GB
Graphics Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Apple Watch
Screen Width None
Auto Scaling None
Localization
English
French
Swedish
On Demand Resource Tags

Assets

NEW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PhotographersParadise
Pluto
profile
TintColor
vacation_planet_logo
Yoga
Filter
1x
2x
3x
Universal
1x
2x
3x
Universal
French
Image
Devices
Universal
iPhone
iPad
CarPlay
Apple Watch
Apple TV
Mac
UIKit for Mac
Mac
Appearances
None
High Contrast
Scales
Individual Scales
Gamut
Any
Direction
Fixed
Width Class
Any
Height Class
Any
Memory
1 GB
2 GB
3 GB
4 GB
6 GB
Graphics
Metal 1v2
Metal 2v2
Metal 3v1
Metal 3v2
Metal 4v1
Metal 5v1
Localization
English
French
Swedish

Symbols

Symbols

SF system symbols are localized

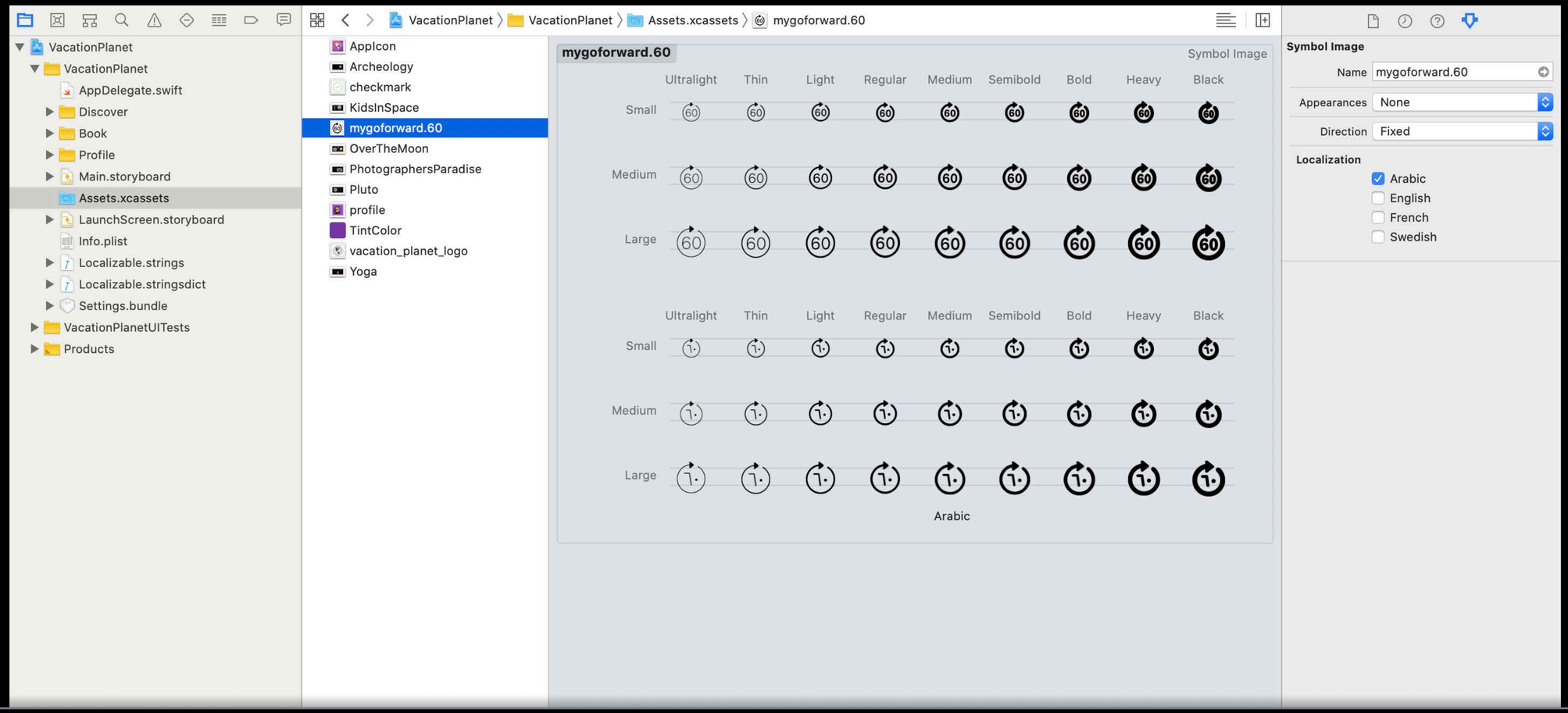
Symbols

SF system symbols are localized

Custom symbols can be localized

Symbols

NEW



Introducing SF Symbols

Tuesday, 3:00

Demo

Localizing assets

Localization Enhancements in Xcode

Localization Enhancements in Xcode

Export and Import of Interface Builder files is 15x faster

Localization Enhancements in Xcode

Export and Import of Interface Builder files is 15x faster

Stringsdict for device-specific strings

Localization Enhancements in Xcode

Export and Import of Interface Builder files is 15x faster

Stringsdict for device-specific strings

Settings Bundle is easy to localize

Localization Enhancements in Xcode

Export and Import of Interface Builder files is 15x faster

Stringsdict for device-specific strings

Settings Bundle is easy to localize

Symbols and images in asset catalogs are localizable

Localized Screenshots with XCTest

Arthur Rayer, Software Engineer

Localization Testing

Localization Testing

Clipping

Localization Testing

Clipping

Truncation

Localization Testing

Clipping

Truncation

Layout overlapping

Localization Testing

Clipping

Truncation

Layout overlapping

Right-to-Left languages

Localization Testing

Localization Testing

English

English

Finnish

French

German

Hindi

Hungarian

Indonesian

Italian

Malay

Norwegian Bokmål

Polish

Portuguese

Arabic

Catalan

Chinese

Croatian

Czech

Danish

Dutch

English

Finnish

French

German

Greek

Hebrew

Hindi

Hungarian

Indonesian

Italian

Japanese

Korean

Malay

Norwegian Bokmål

Polish

Portuguese

Romanian

Russian

Slovak

Spanish

Swedish

Thai

Turkish

Arabic

Catalan

Chinese

Croatian

Czech

Danish

Dutch

English

Finnish

French

German

Greek

Hebrew

Hindi

Hungarian

Indonesian

Italian

Japanese

Korean

Malay

Norwegian Bokmål

Polish

Portuguese

Romanian

Russian

Slovak

Spanish

Swedish

Thai

Turkish

Vietnamese

Ukrainian

Chinese

Croatian

Czech

Danish

Dutch

English

Finnish

French

German

Greek

Hebrew

Hindi

Hungarian

Indonesian

Italian

Japanese

Korean

Malay

Norwegian Bokmål

Polish

Portuguese

Romanian

Russian

Slovak

Spanish

Swedish

Thai

Turkish

XCTESTPLAN

Test Plans

Multiple tests

Multiple configurations

Set up tests for localization

Set up tests for localization

Generate localized screenshots

Set up tests for localization

Generate localized screenshots

Use cases

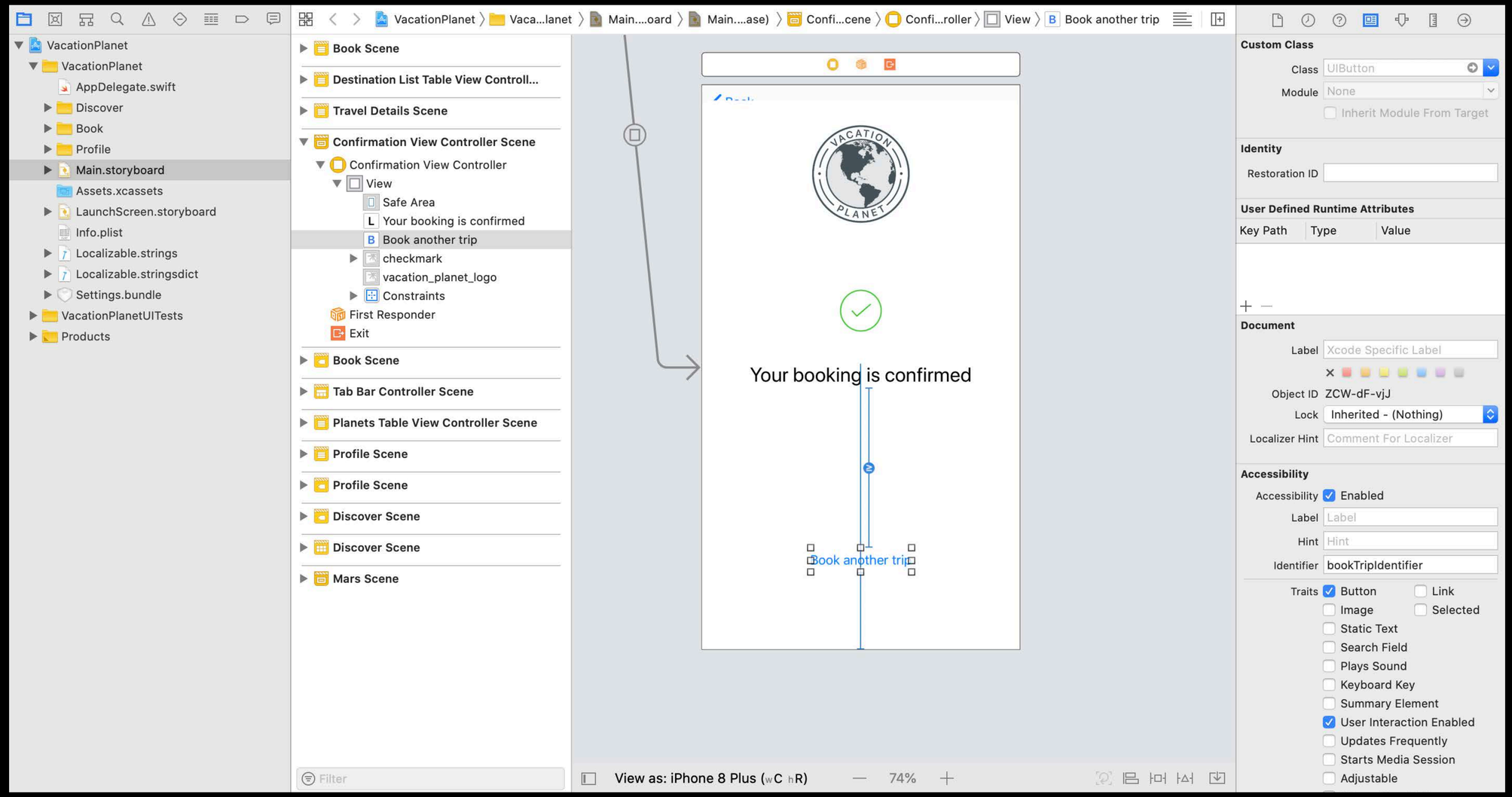
Set up Tests for Localization

Set up Tests

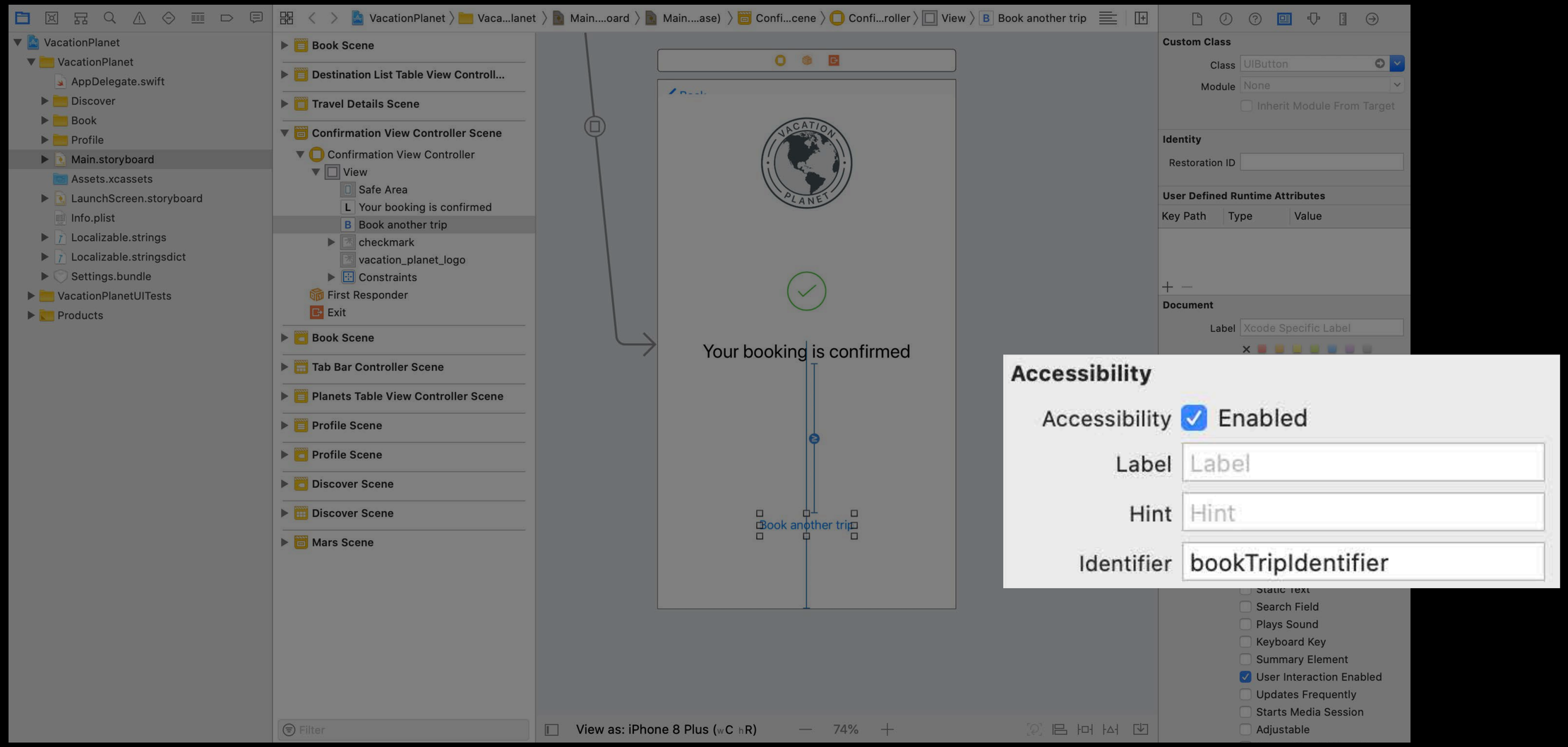
```
// Set Accessibility Identifier
myCell.accessibilityIdentifier = "myCell"
```

```
// Use Accessibility Identifier to find myCell
app.tables.cells["myCell"].tap()
```

Set up Tests


VacationPlanet
VacationPlanet
AppDelegate.swift
Discover
Book
Profile
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
Localizable.strings
Localizable.stringsdict
Settings.bundle
VacationPlanetUITests
Products
Book Scene
Destination List Table View Controll...
Travel Details Scene
Confirmation View Controller Scene
Confirmation View Controller
View
Safe Area
Your booking is confirmed
Book another trip
checkmark
vacation_planet_logo
Constraints
First Responder
Exit
Book Scene
Tab Bar Controller Scene
Planets Table View Controller Scene
Profile Scene
Profile Scene
Discover Scene
Discover Scene
Mars Scene
Filter
VACATION PLANET
Your booking is confirmed
Book another trip
View as: iPhone 8 Plus
74%
Custom Class
Class UIButton
Module None
Inherit Module From Target
Identity
Restoration ID
User Defined Runtime Attributes
Key Path
Type
Value
Document
Label Xcode Specific Label
Object ID ZCW-dF-vjJ
Lock Inherited - (Nothing)
Localizer Hint Comment For Localizer
Accessibility
Accessibility Enabled
Label Label
Hint Hint
Identifier bookTripIdentifier
Traits Button Link
Image Selected
Static Text
Search Field
Plays Sound
Keyboard Key
Summary Element
User Interaction Enabled
Updates Frequently
Starts Media Session
Adjustable

Set up Tests


VacationPlanet
VacationPlanet
AppDelegate.swift
Discover
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Confirmation View Controller
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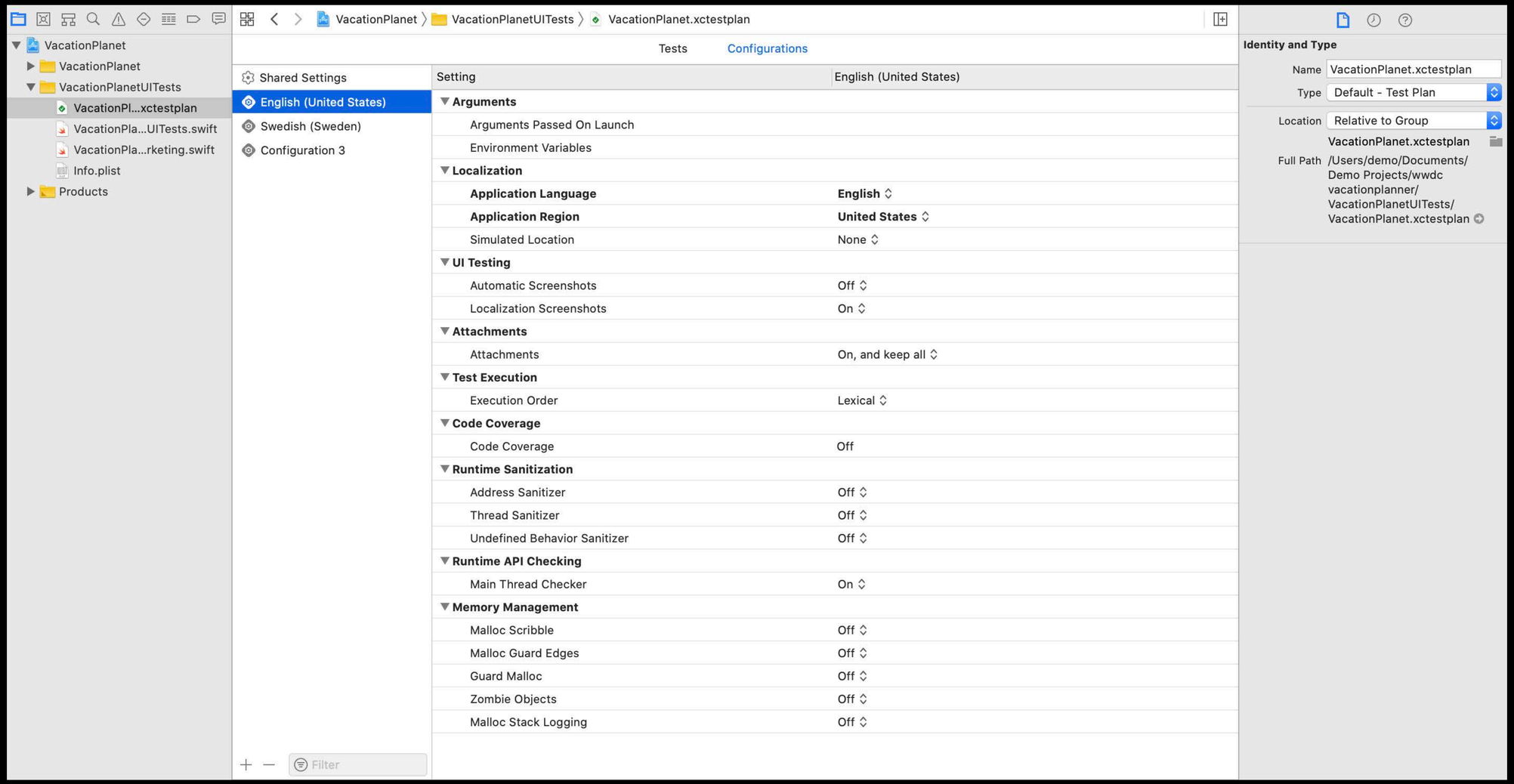
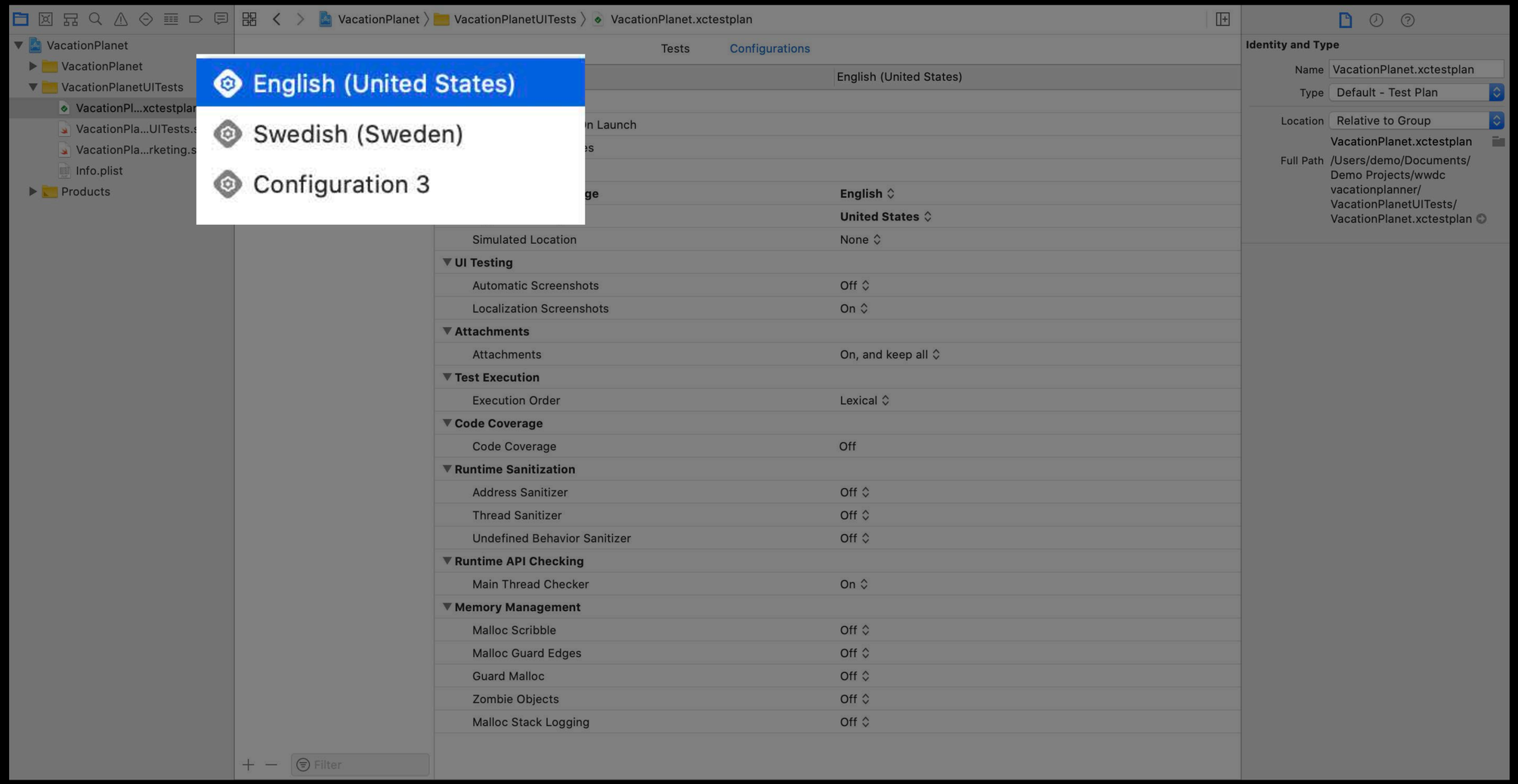
Your booking is confirmed
Book another trip
checkmark
vacation_planet_logo
Constraints
First Responder
Exit
Book Scene
Tab Bar Controller Scene
Planets Table View Controller Scene
Profile Scene
Profile Scene
Discover Scene
Discover Scene
Mars Scene
Your booking is confirmed
Book another trip
View as: iPhone 8 Plus
74%
Custom Class
Class UIButton
Module None
Inherit Module From Target
Identity
Restoration ID
User Defined Runtime Attributes
Key Path Type Value
Document
Label Xcode Specific Label
Search Field
Plays Sound
Keyboard Key
Summary Element
User Interaction Enabled
Updates Frequently
Starts Media Session
Adjustable
Accessibility
Accessibility Enabled
Label Label
Hint Hint
Identifier bookTripIdentifier

Generate Localized Screenshots

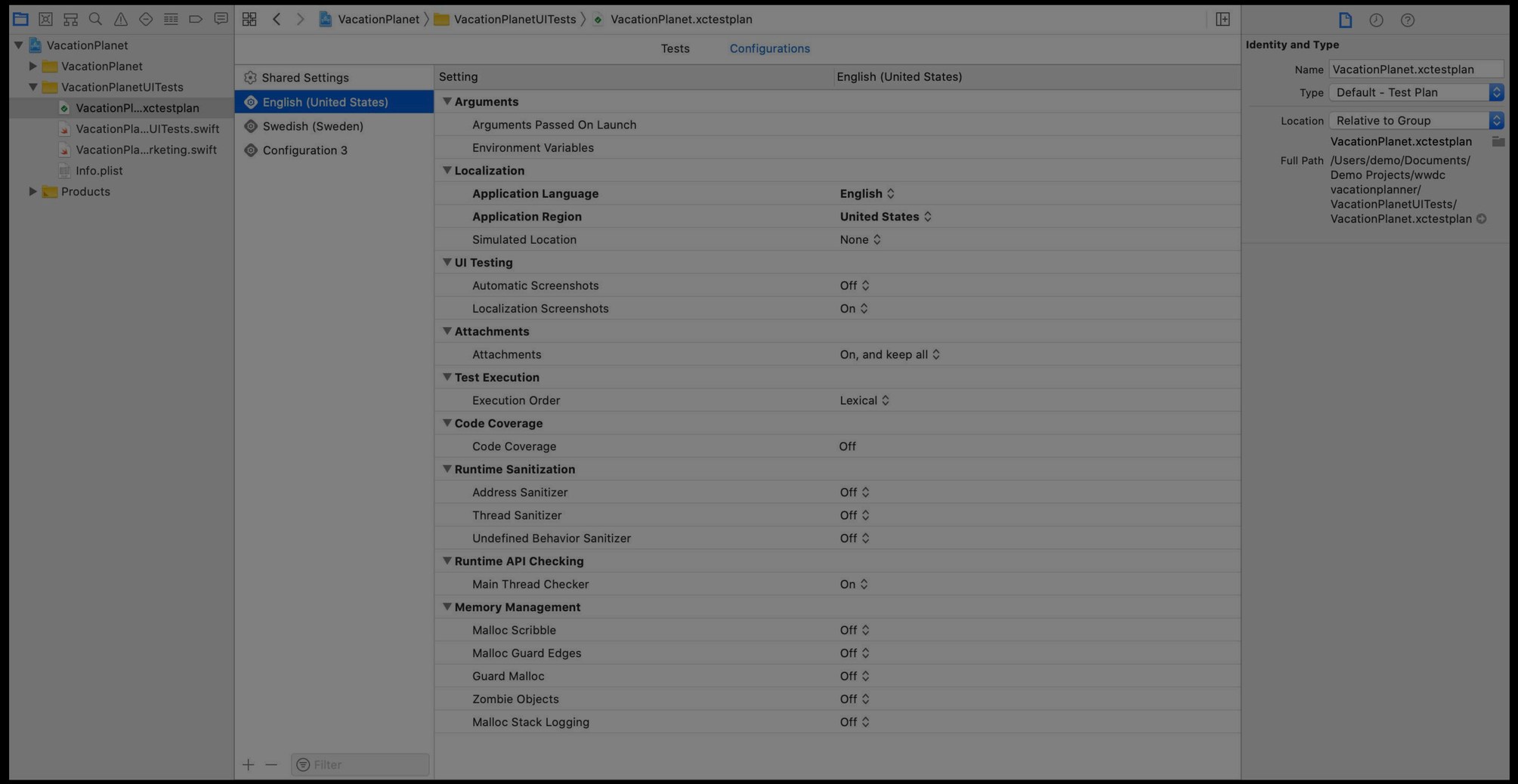
Generate Localized Screenshots



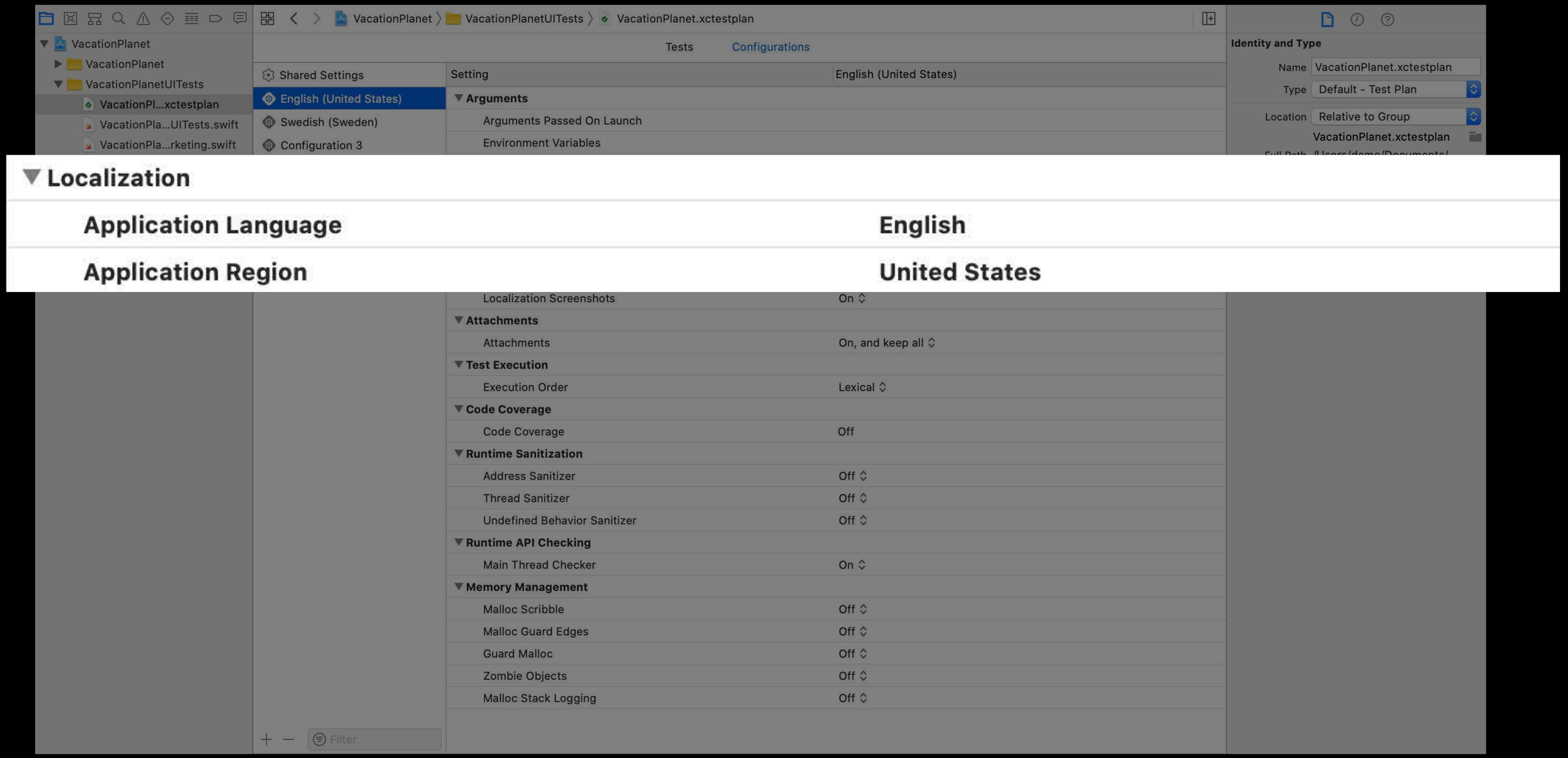
Generate Localized Screenshots



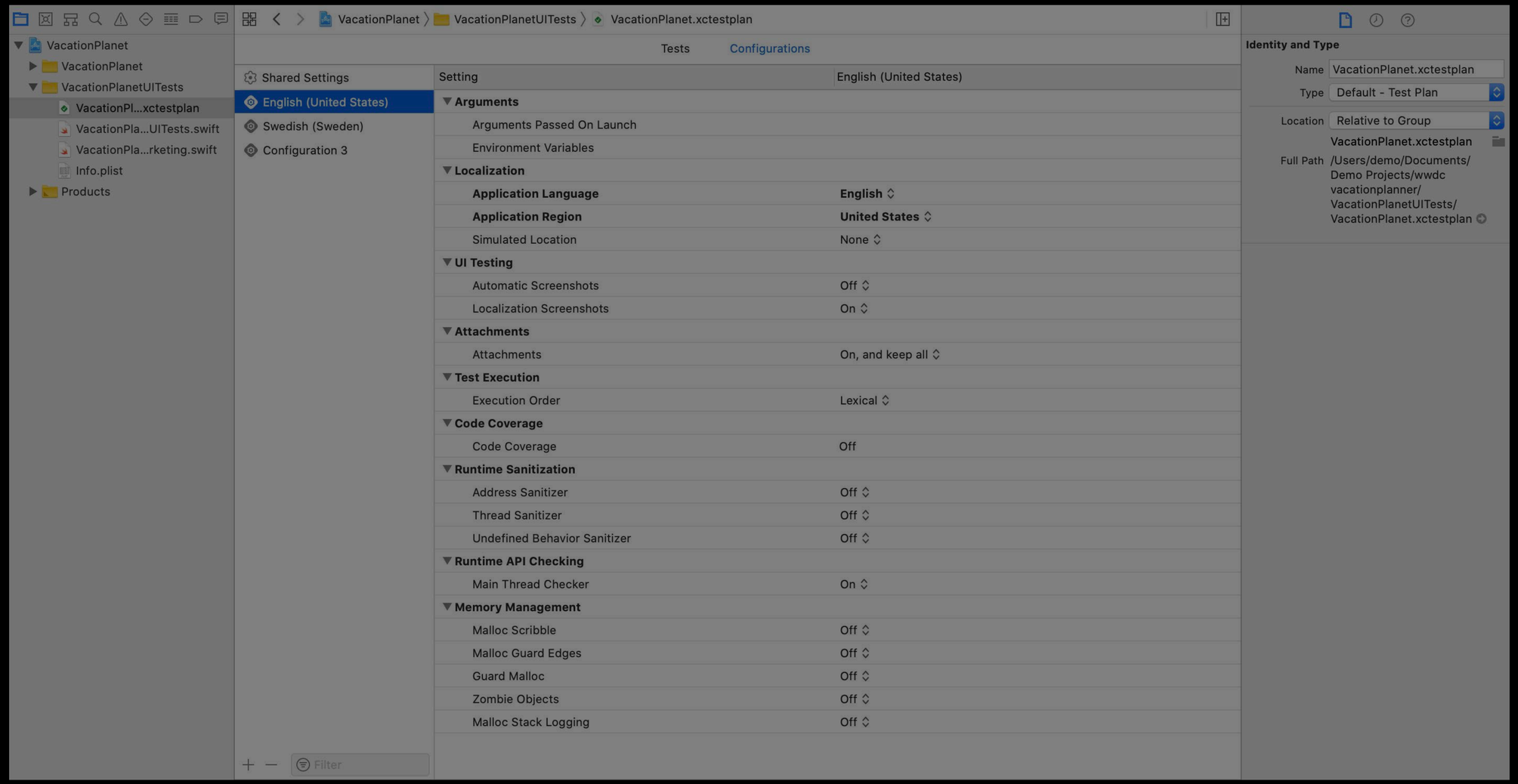
Generate Localized Screenshots



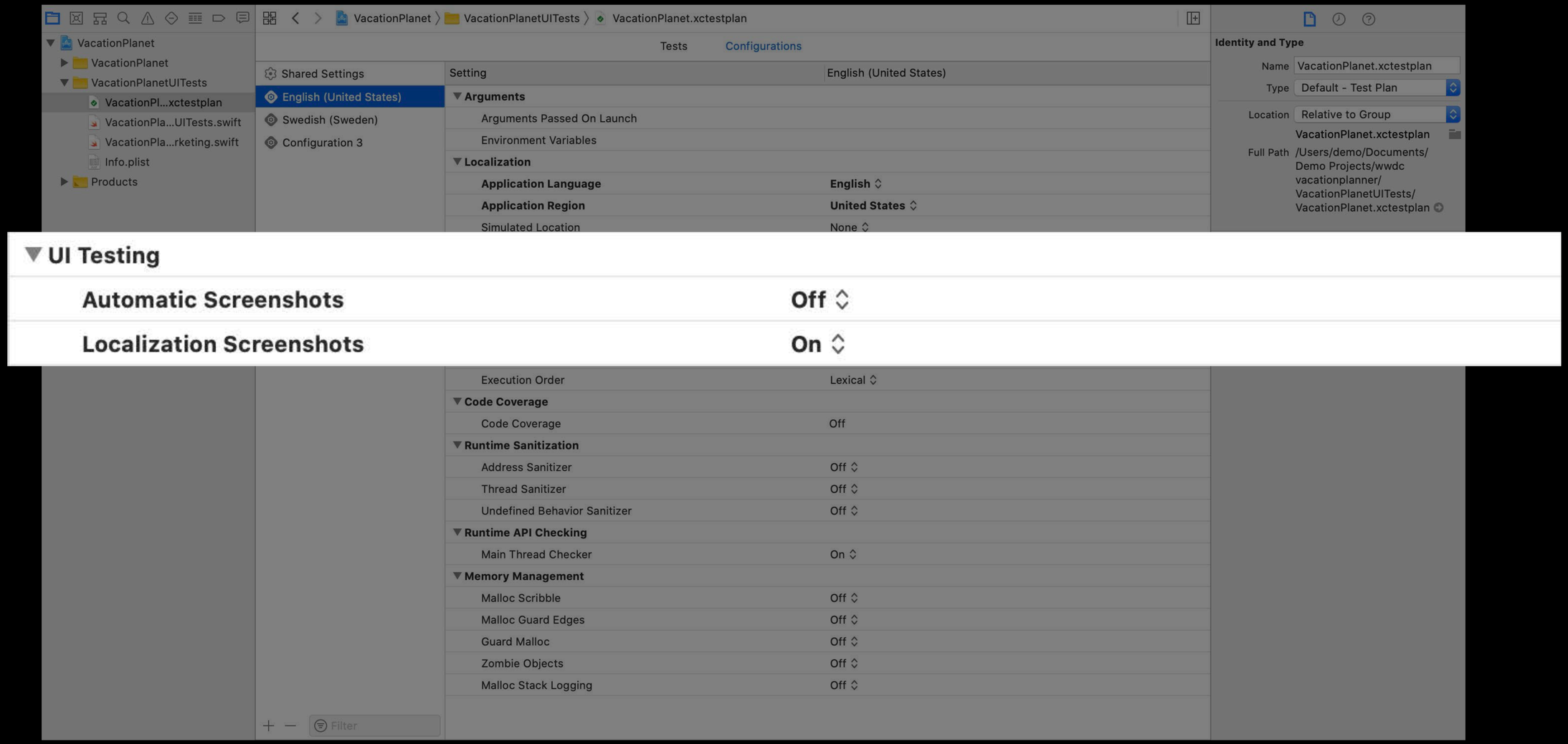
Generate Localized Screenshots



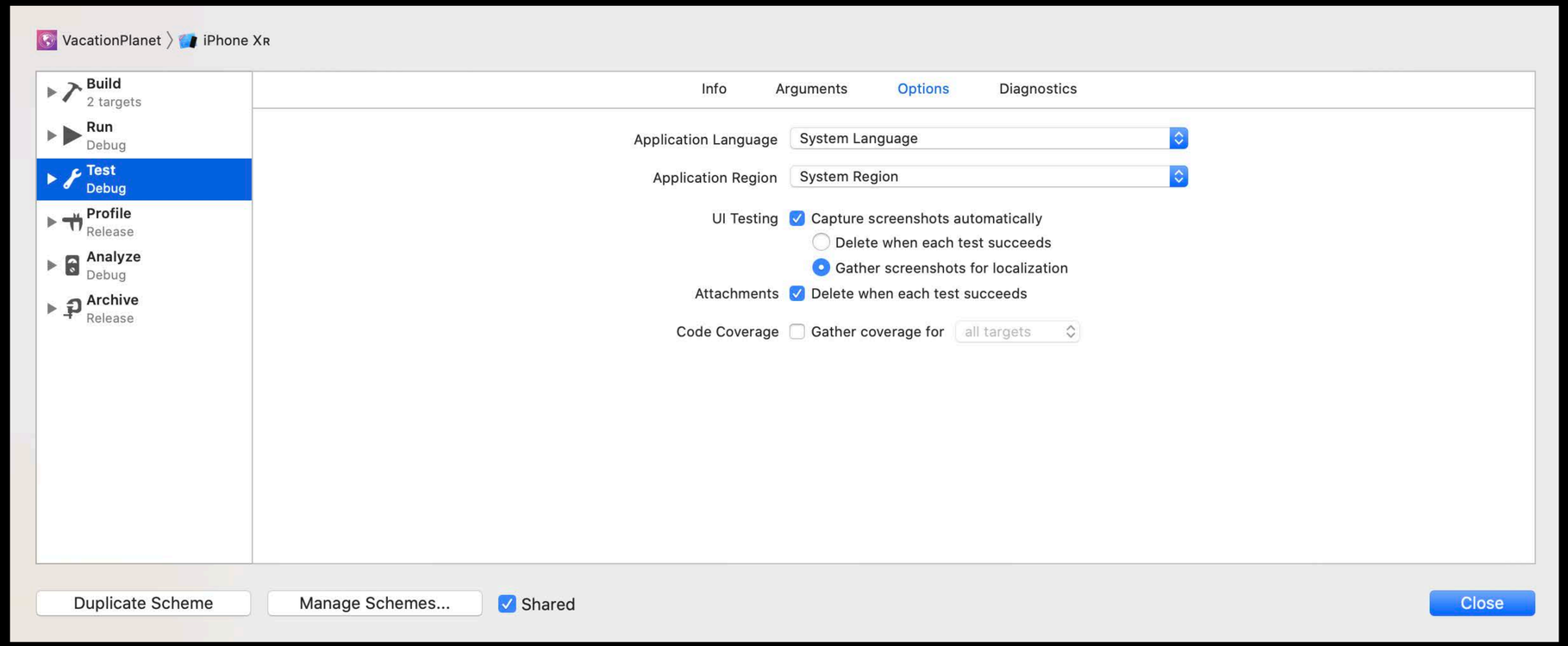
Generate Localized Screenshots



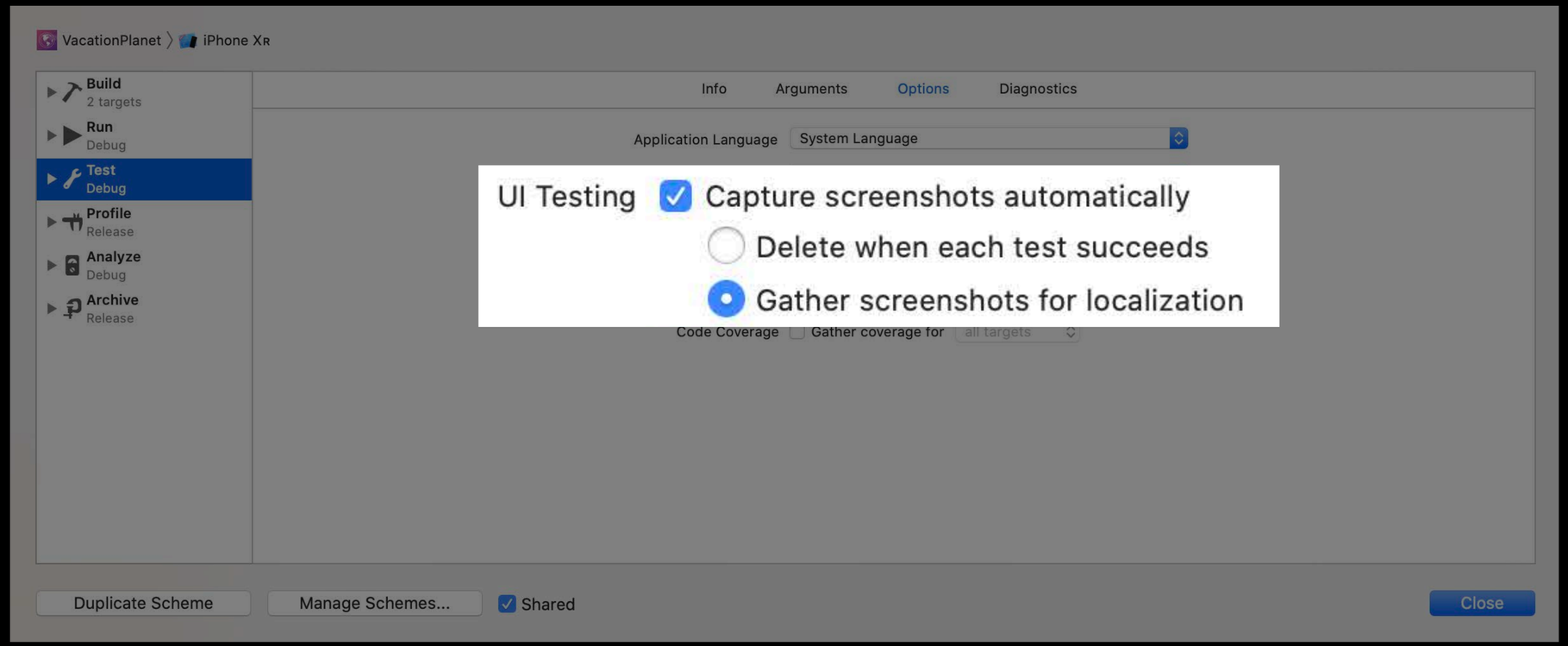
Generate Localized Screenshots



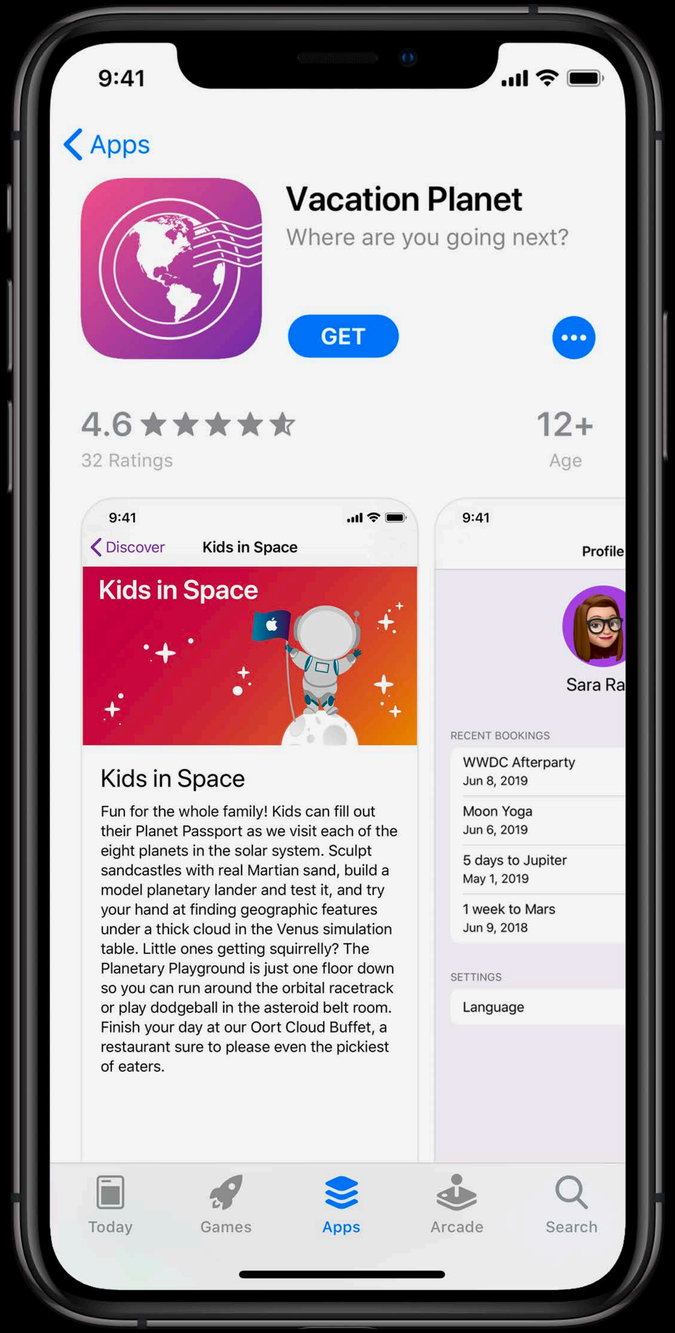
Generate Localized Screenshots



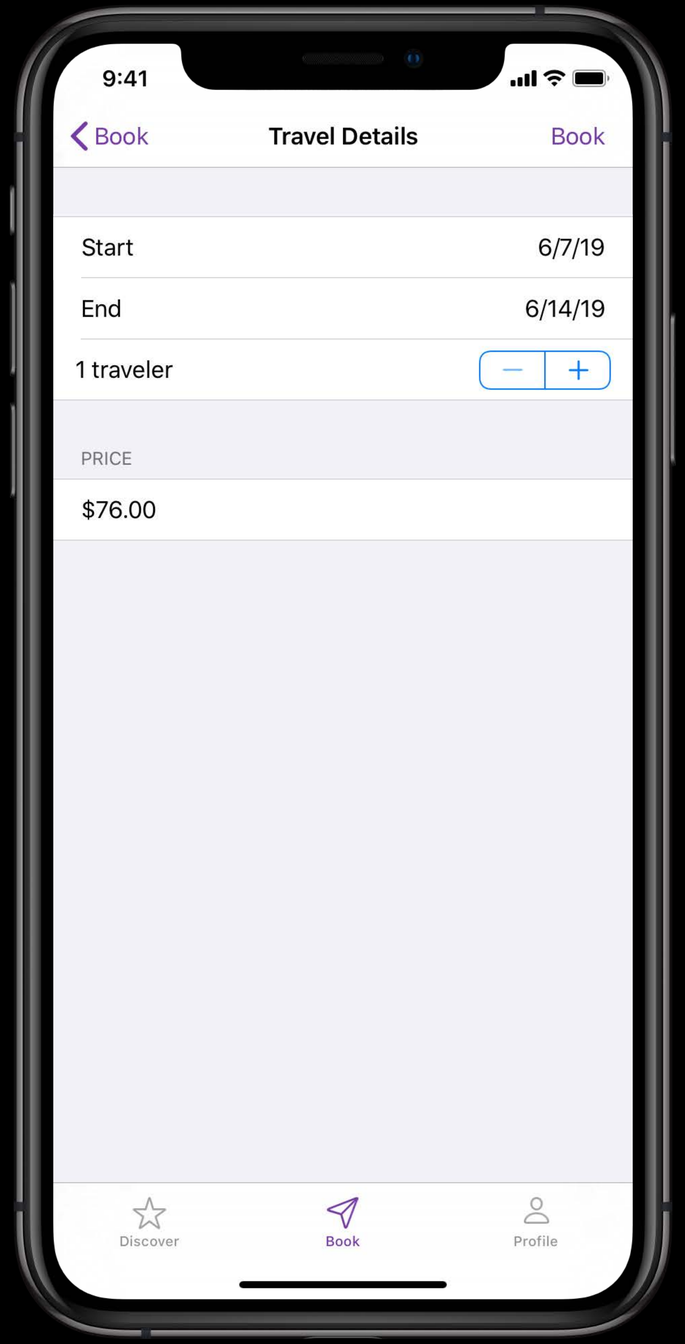
Generate Localized Screenshots

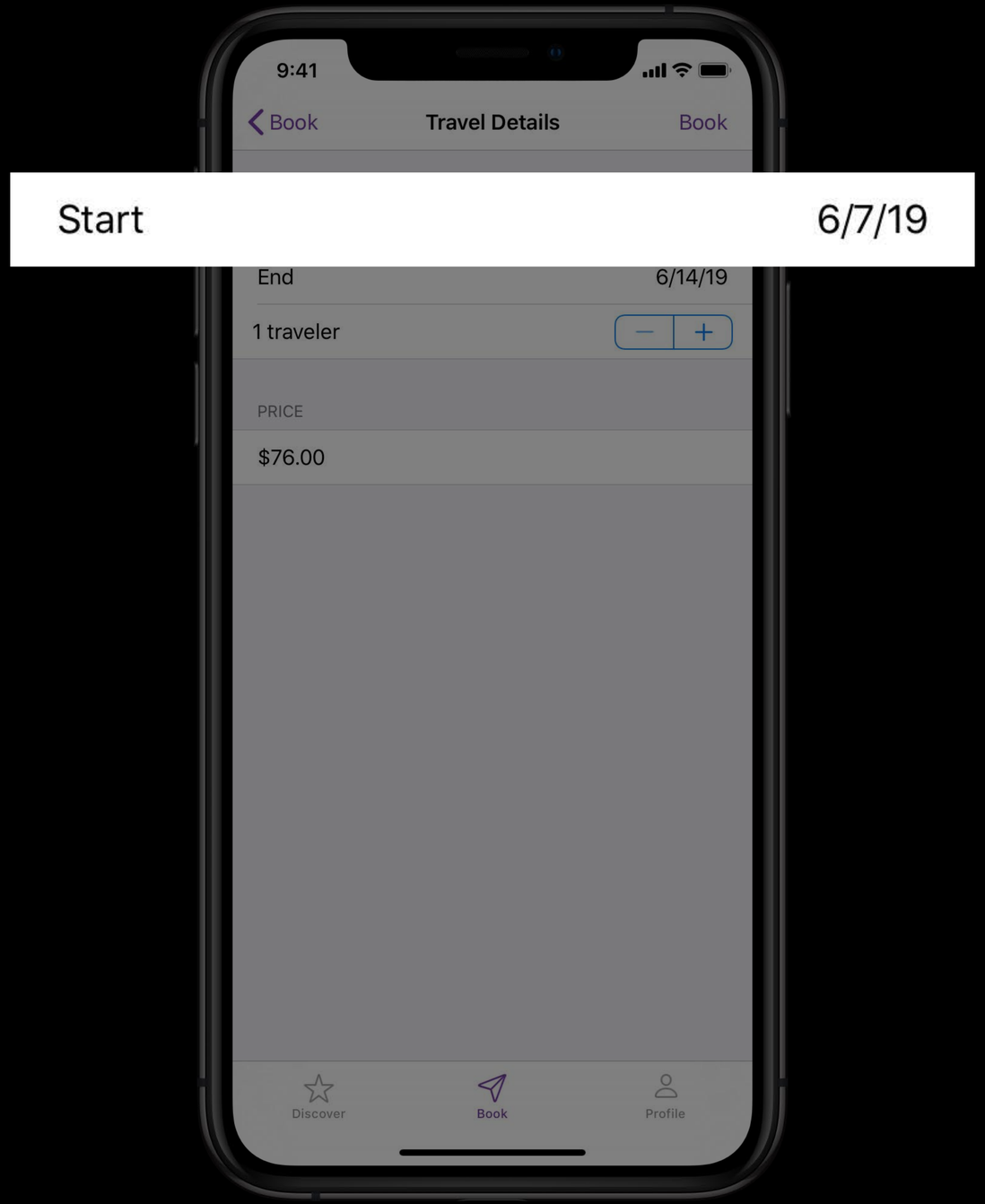


Use Cases

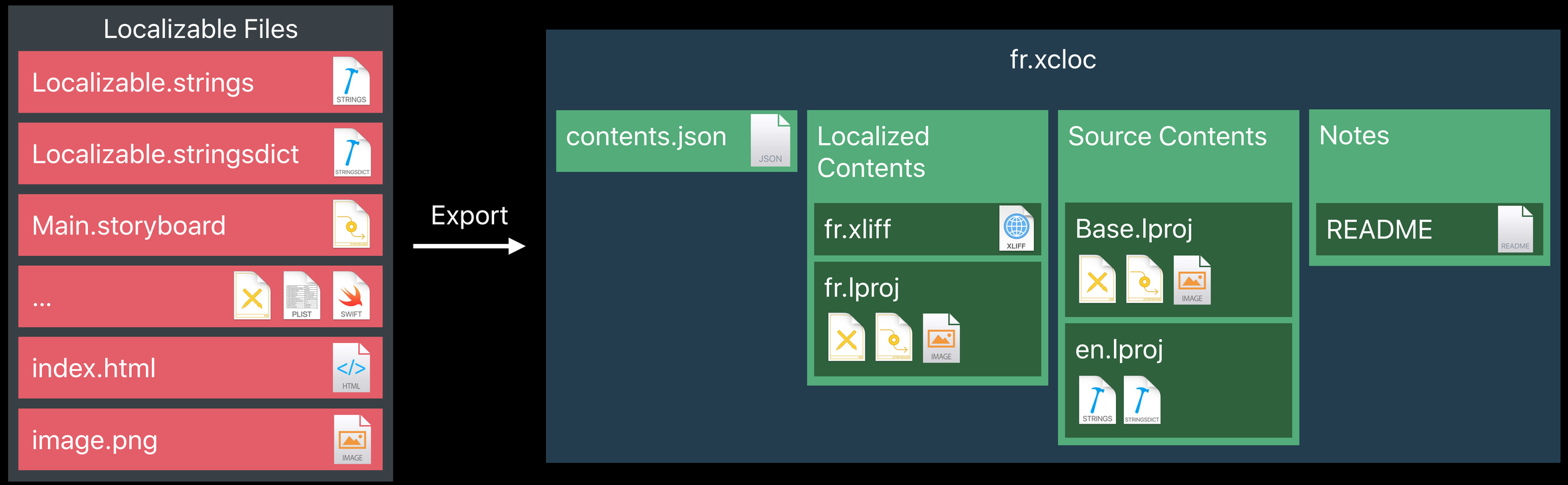

9:41
Apps
Vacation Planet
Where are you going next?
GET
4.6
32 Ratings
12+
Age
9:41
Discover
Kids in Space
Kids in Space
Kids in Space
Fun for the whole family! Kids can fill out their Planet Passport as we visit each of the eight planets in the solar system. Sculpt sandcastles with real Martian sand, build a model planetary lander and test it, and try your hand at finding geographic features under a thick cloud in the Venus simulation table. Little ones getting squirrelly? The Planetary Playground is just one floor down so you can run around the orbital racetrack or play dodgeball in the asteroid belt room. Finish your day at our Oort Cloud Buffet, a restaurant sure to please even the pickiest of eaters.
9:41
Profile
Sara Ra
RECENT BOOKINGS
WWDC Afterparty
Jun 8, 2019
Moon Yoga
Jun 6, 2019
5 days to Jupiter
May 1, 2019
1 week to Mars
Jun 9, 2018
SETTINGS
Language
Today
Games
Apps
Arcade
Search

9:41
Apps
Planète Vacances
Découvrir une autre planète ?
OBTENIR
4,5
6,4 k notes
12+
Âge
9:41
Découvrir
Petit Cosmonaute
Petit Cosmonaute
Petit Cosmonaute
Divertissement garanti pour toute la famille ! Venez compléter votre passport planétaire en visitant chaque planète du système solaire. Faites des châteaux de sable martiens, construisez un atterrisseur lunaire ou essayez de découvrir de nouvelles caractéristiques géographiques sous les épais nuages de Vénus. Un trop plein d'énergie ? L'aire de jeu planétaire n'est qu'un étage plus bas ; vous pourrez y courir sur un circuit orbital ou faire une partie de dodgeball dans notre ceinture d'astéroïdes. Et après l'effort, le réconfort : le restaurant Oort Cloud est une attraction culinaire à ne pas manquer !
9:41
Profil
Sara Ra
RÉCENTES RÉSERVATIONS
WWDC Afterparty
8 juin 2019
Yoga sur la lune
6 juin 2019
5 jours sur Jupiter
1 mai 2019
1 semaine sur Mars
9 juin 2018
RÉGLAGES
Langue
Aujourd'hui
Jeux
Apps
Arcade
Rechercher

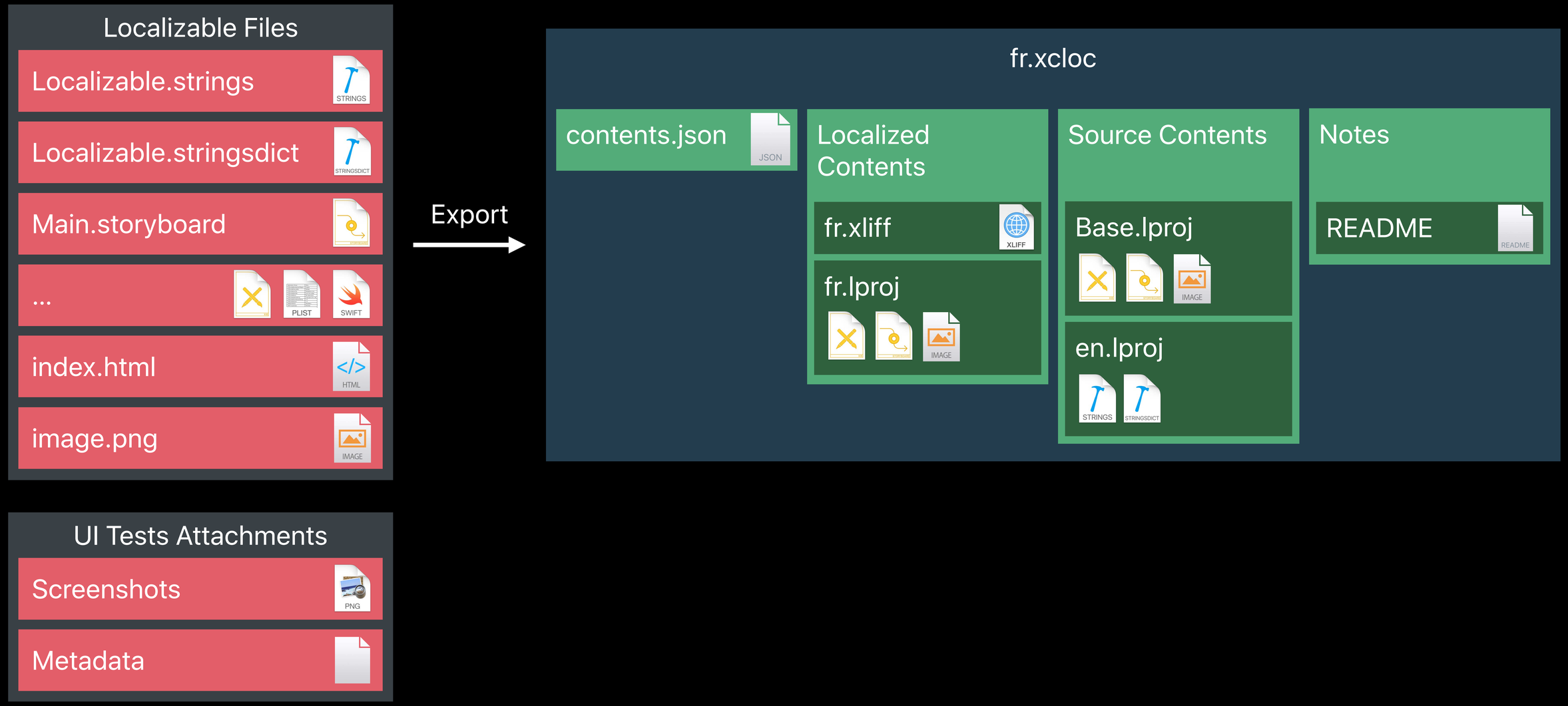

9:41
Book
Travel Details
Book
Start
6/7/19
End
6/14/19
1 traveler
PRICE
$76.00
Discover
Book
Profile


9:41
Book
Travel Details
Book
Start
6/7/19
End
6/14/19
1 traveler
PRICE
$76.00
Discover
Book
Profile

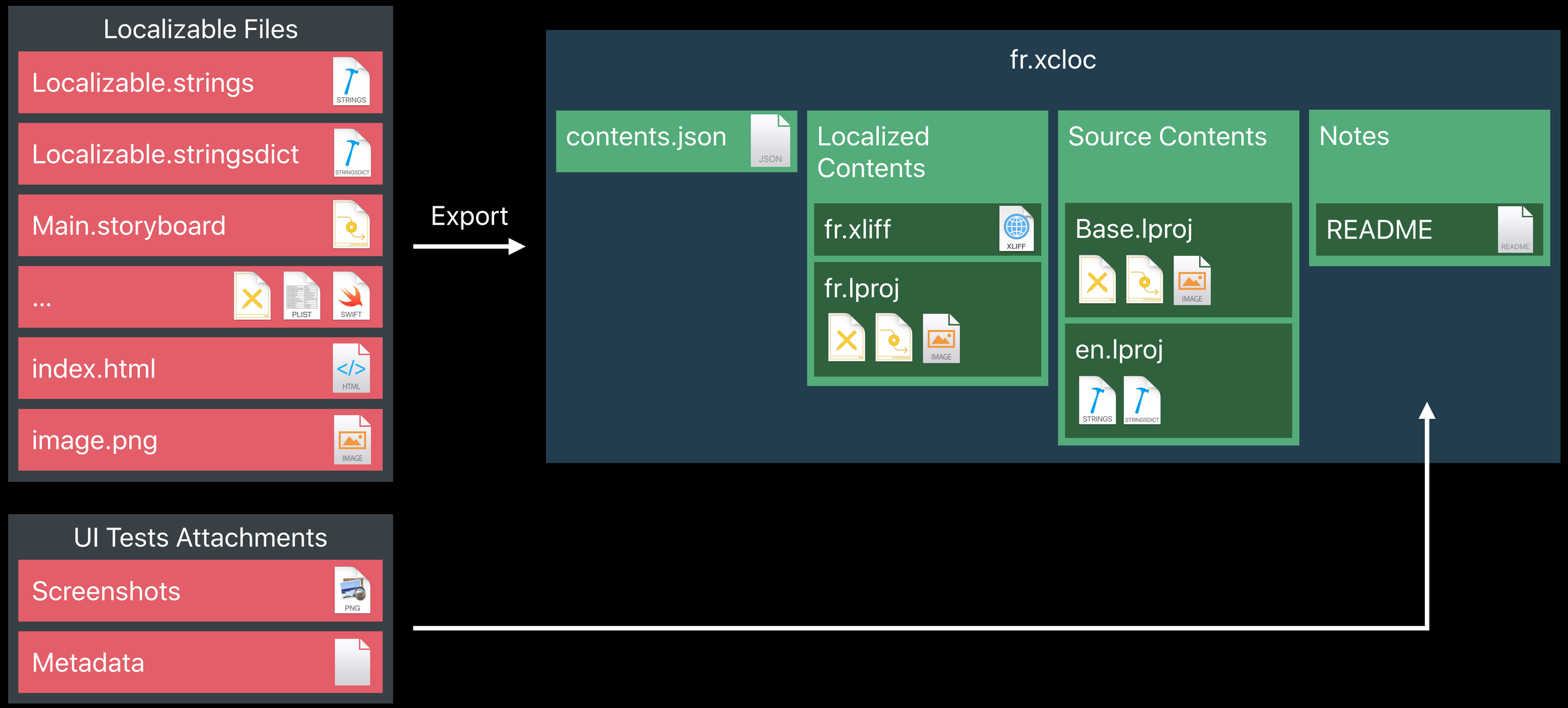
Xcode Localization Catalog



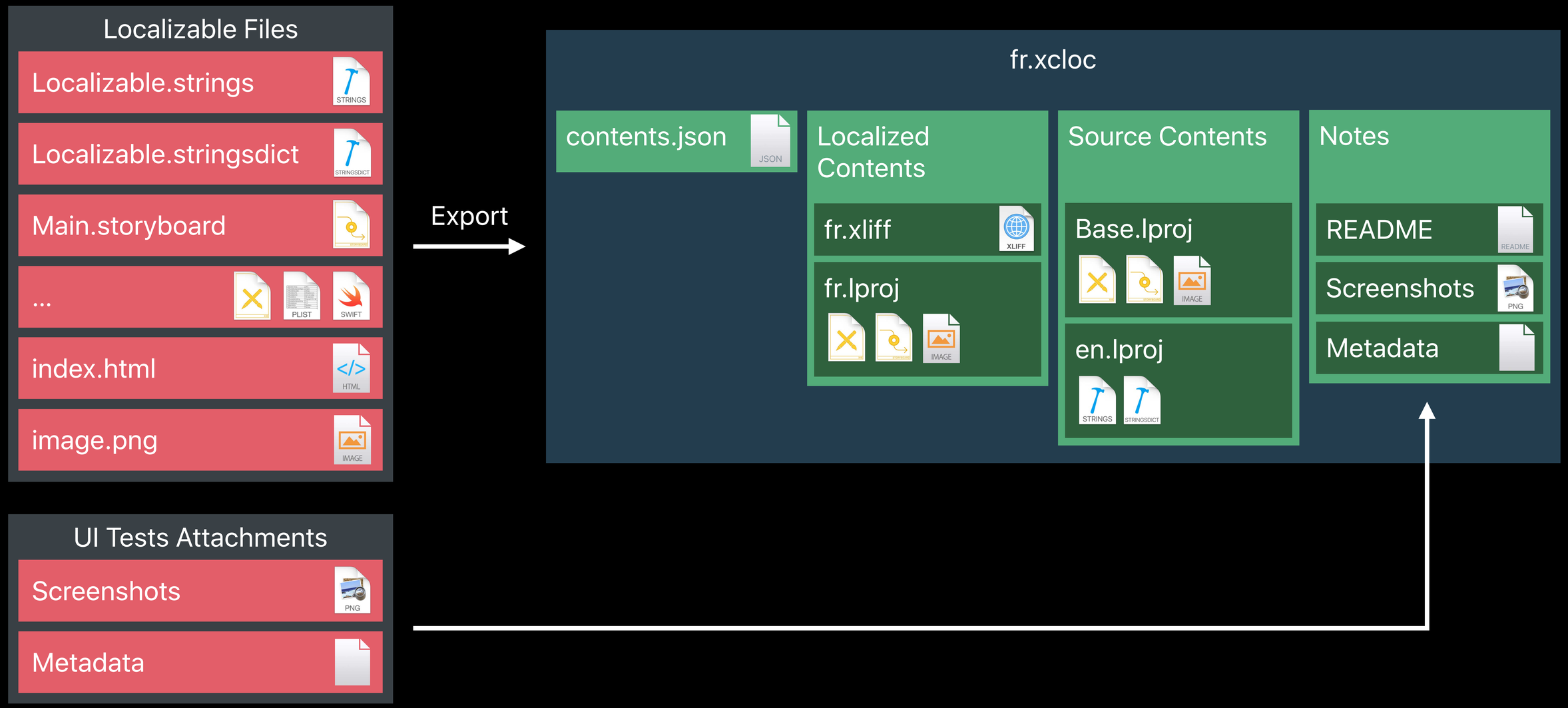
Xcode Localization Catalog



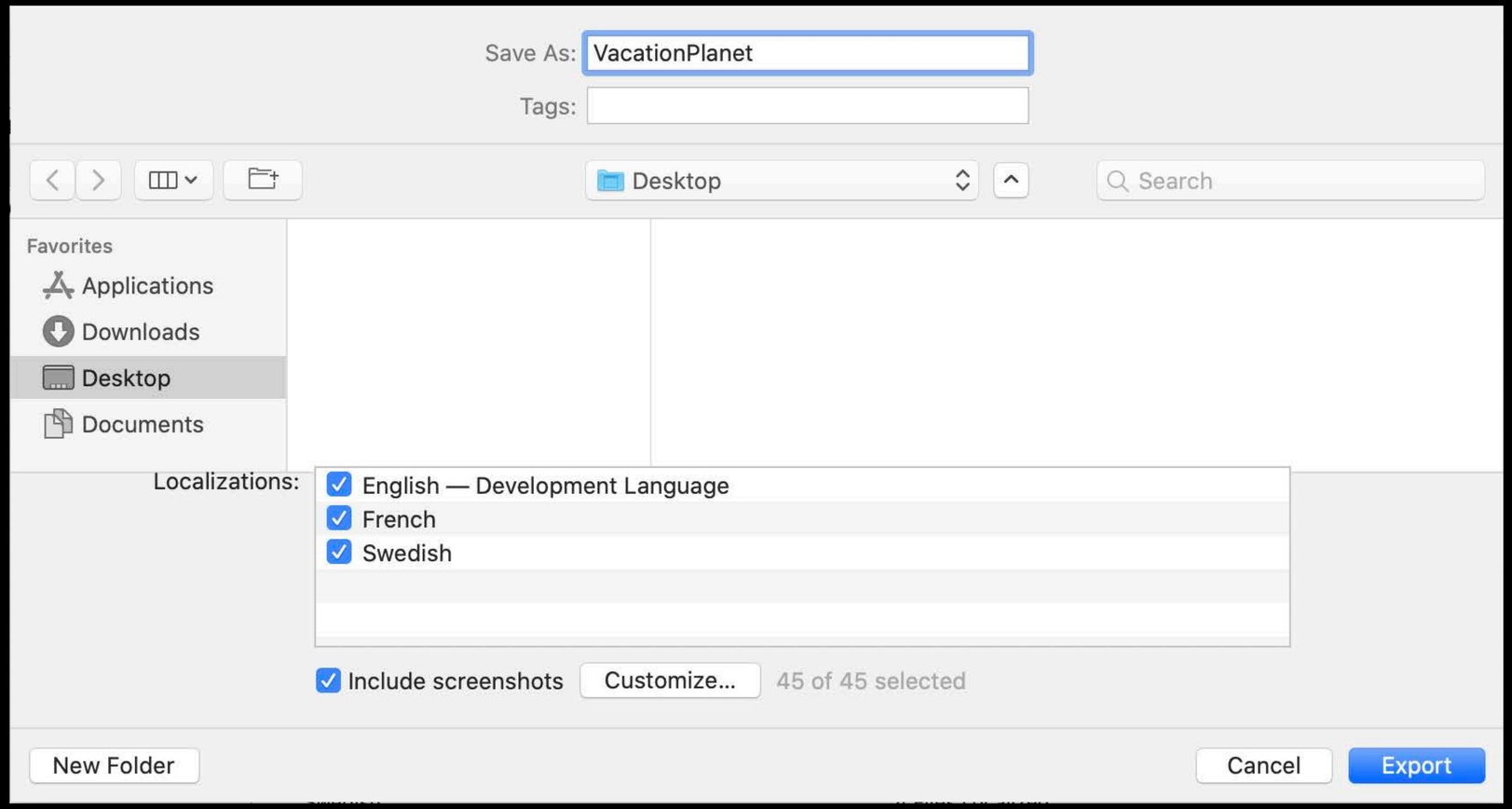
Xcode Localization Catalog



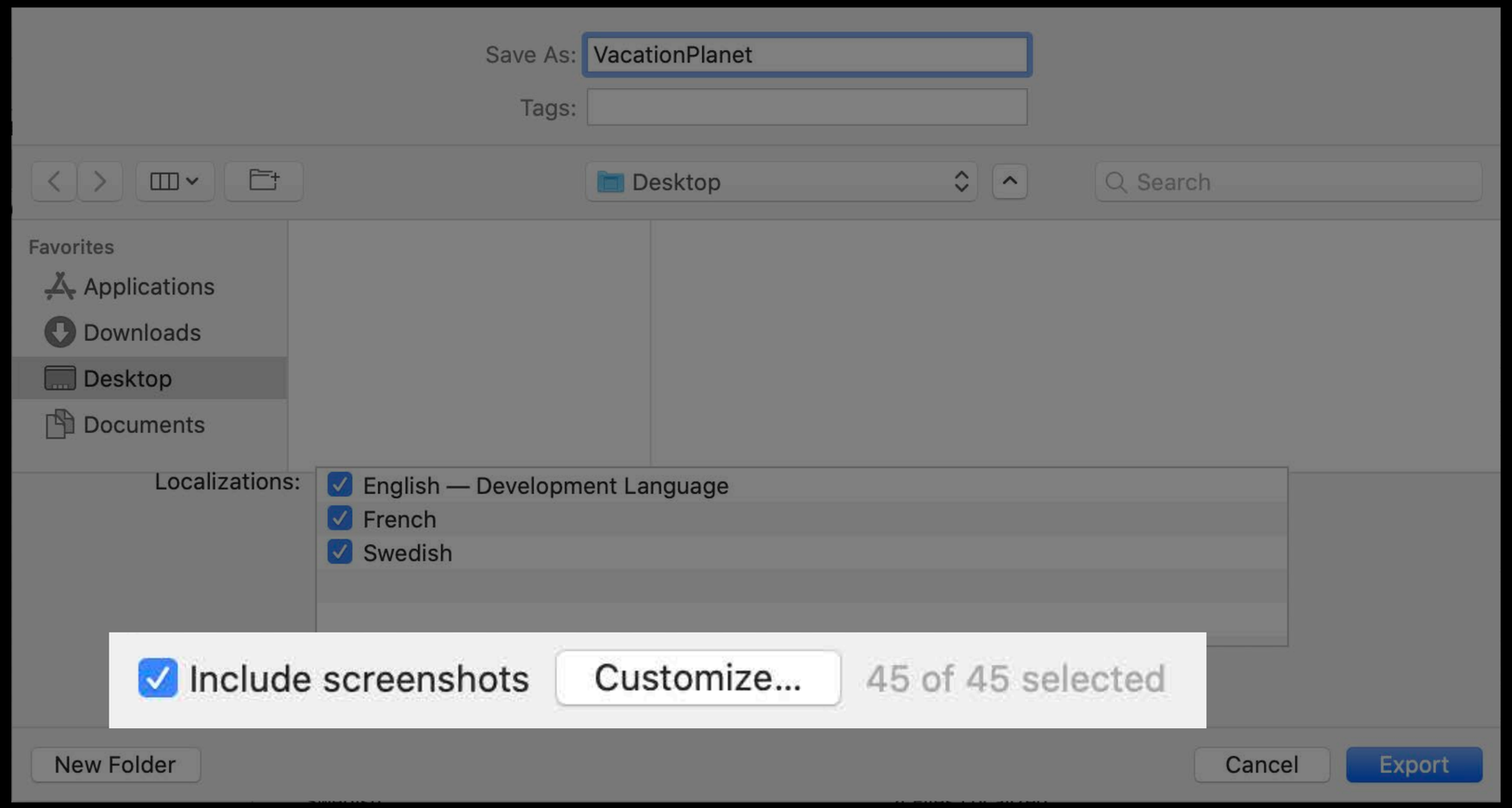
Xcode Localization Catalog



Xcode Localization Catalog



Xcode Localization Catalog

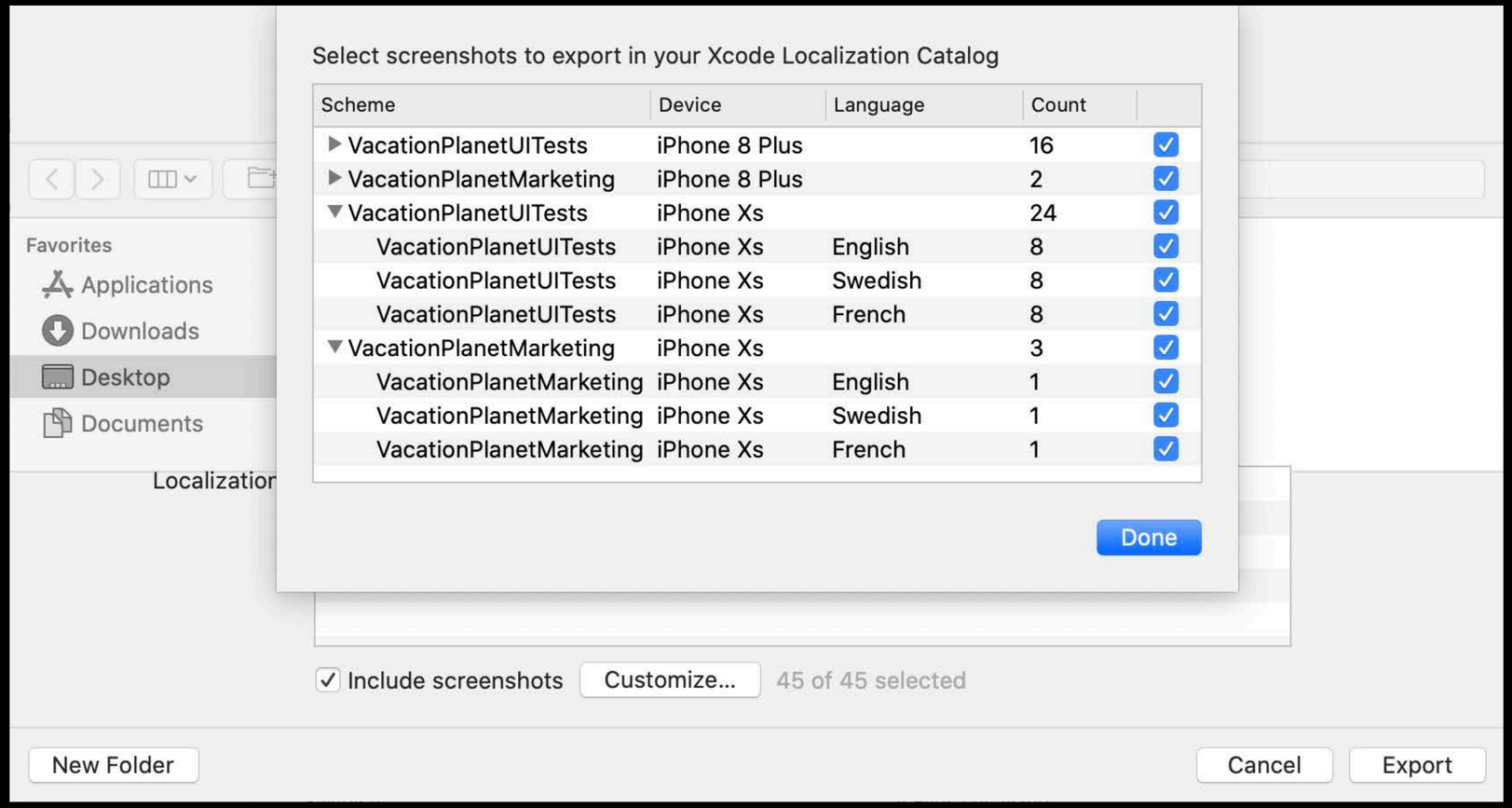


Xcode Localization Catalog

NEW

```
$ xcodebuild -exportLocalizations -project <projectname> -localizationPath <dirpath>
[[-exportLanguage <targetlanguage>] ...] -includeScreenshots
```

Xcode Localization Catalog



Test Attachments

iOS tvOS

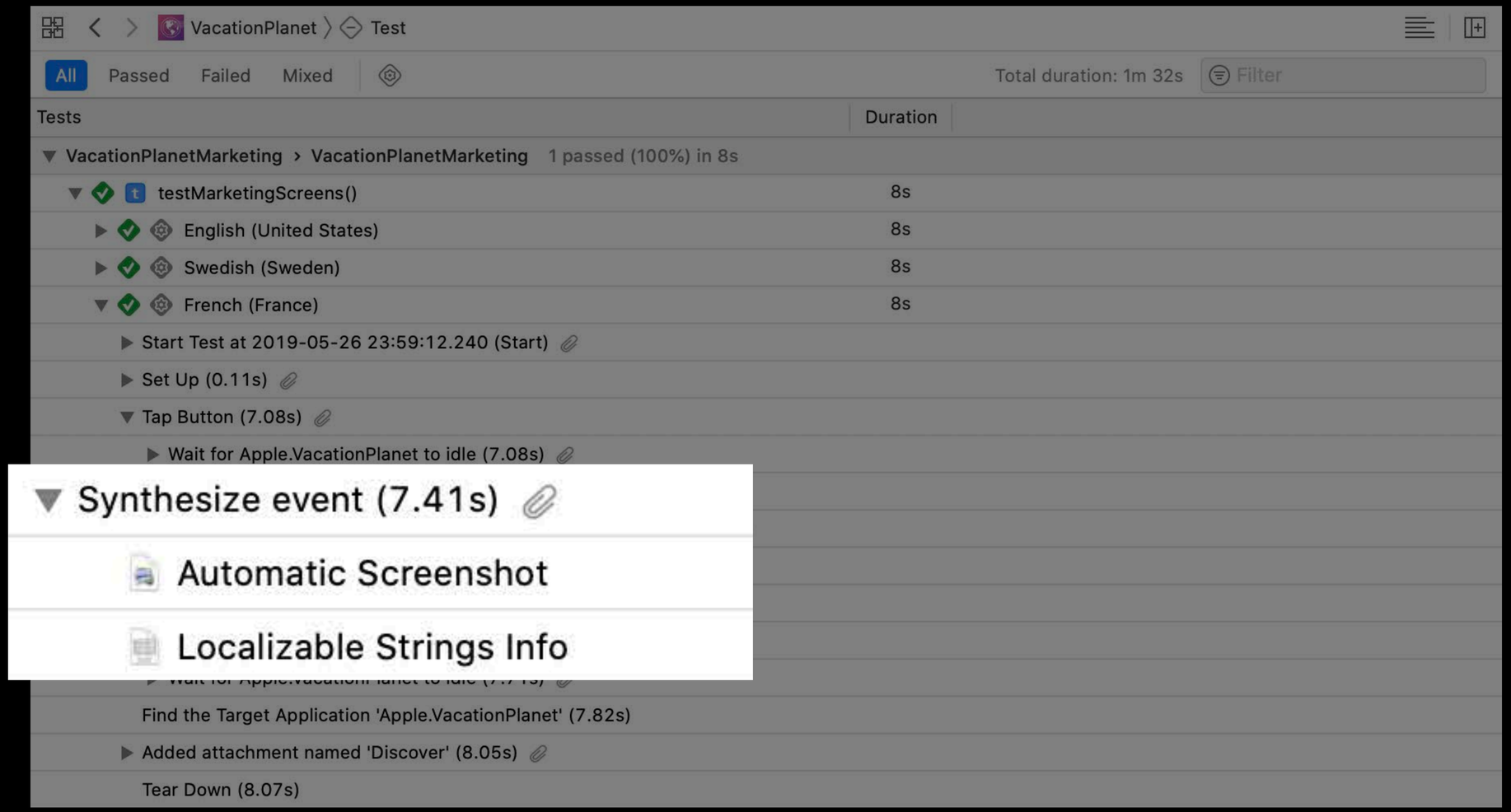
VacationPlanet 〉 Test

All Passed Failed Mixed Total duration: 1m 32s Filter

Tests	Duration
VacationPlanetMarketing › VacationPlanetMarketing 1 passed (100%) in 8s	
testMarketingScreens()	8s
English (United States)	8s
Swedish (Sweden)	8s
French (France)	8s
Start Test at 2019-05-26 23:59:12.240 (Start)	
Set Up (0.11s)	
Tap Button (7.08s)	
Wait for Apple.VacationPlanet to idle (7.08s)	
Find the Button (7.16s)	
Check for interrupting elements affecting "Découvrir" Button (7.29s)	
Synthesize event (7.41s)	
Automatic Screenshot	
Localizable Strings Info	
Wait for Apple.VacationPlanet to idle (7.71s)	
Find the Target Application 'Apple.VacationPlanet' (7.82s)	
Added attachment named 'Discover' (8.05s)	
Tear Down (8.07s)	

Test Attachments

iOS tvOS

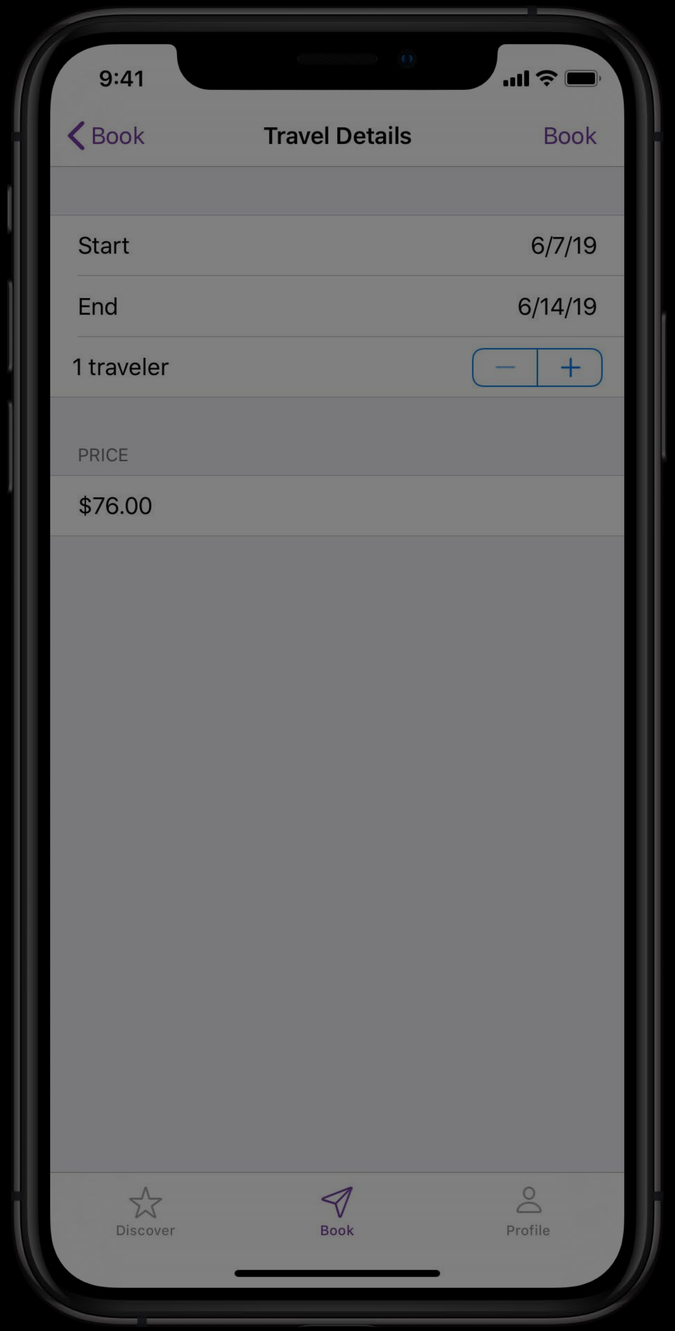


Test Attachments

Key	Type	Value
▼ Root	Array	(5 items)
▶ Item 0	Dictionary	(5 items)
▶ Item 1	Dictionary	(5 items)
▼ Item 2	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{2, 730}, {121, 48}}
stringKey	String	kDh-xm-93c.title
tableName	String	Main
▼ Item 3	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{127, 730}, {121, 48}}
stringKey	String	k1o-Eb-xsp.title
tableName	String	Main
▼ Item 4	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{252, 730}, {121, 48}}
stringKey	String	Slr-hY-46f.title
tableName	String	Main

Test Attachments

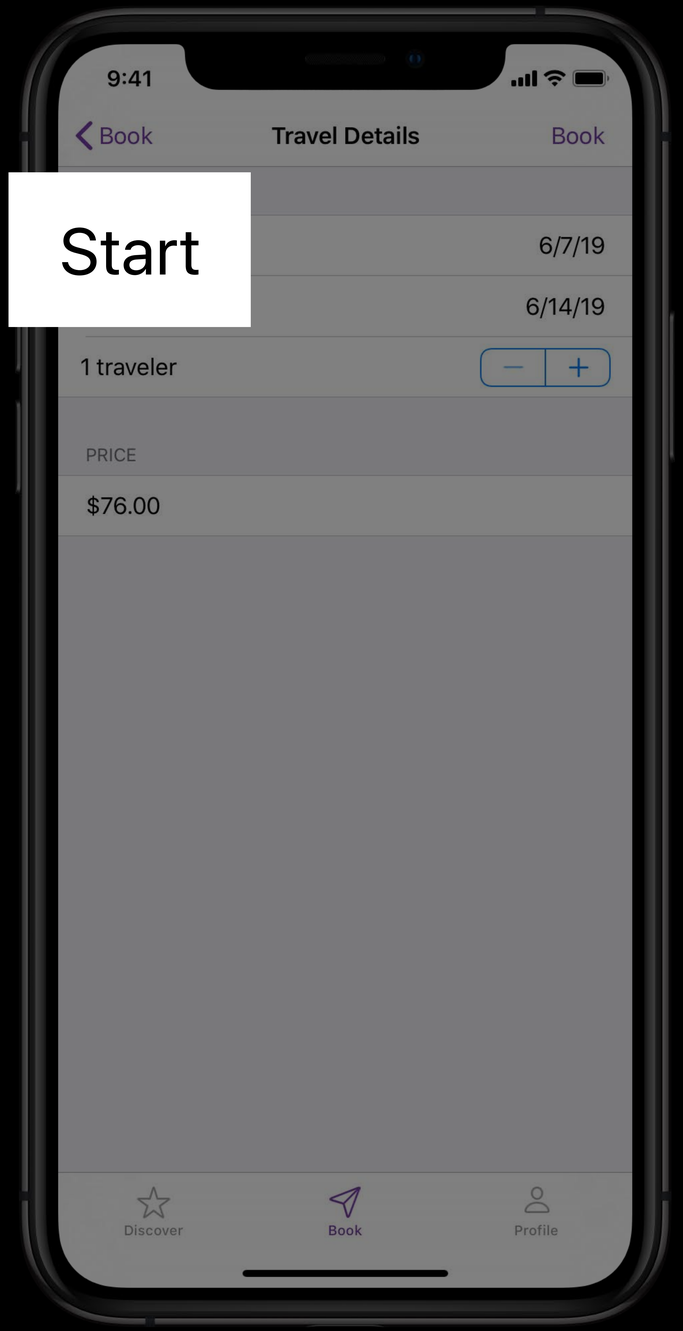
Key	Type	Value
▼ Root	Array	(5 items)
▶ Item 0	Dictionary	(5 items)
▶ Item 1	Dictionary	(5 items)
▼ Item 2	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{2, 730}, {121, 48}}
stringKey	String	kDh-xm-93c.title
tableName	String	Main
▼ Item 3	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{127, 730}, {121, 48}}
stringKey	String	k1o-Eb-xsp.title
tableName	String	Main
▼ Item 4	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{252, 730}, {121, 48}}
stringKey	String	Slr-hY-46f.title
tableName	String	Main



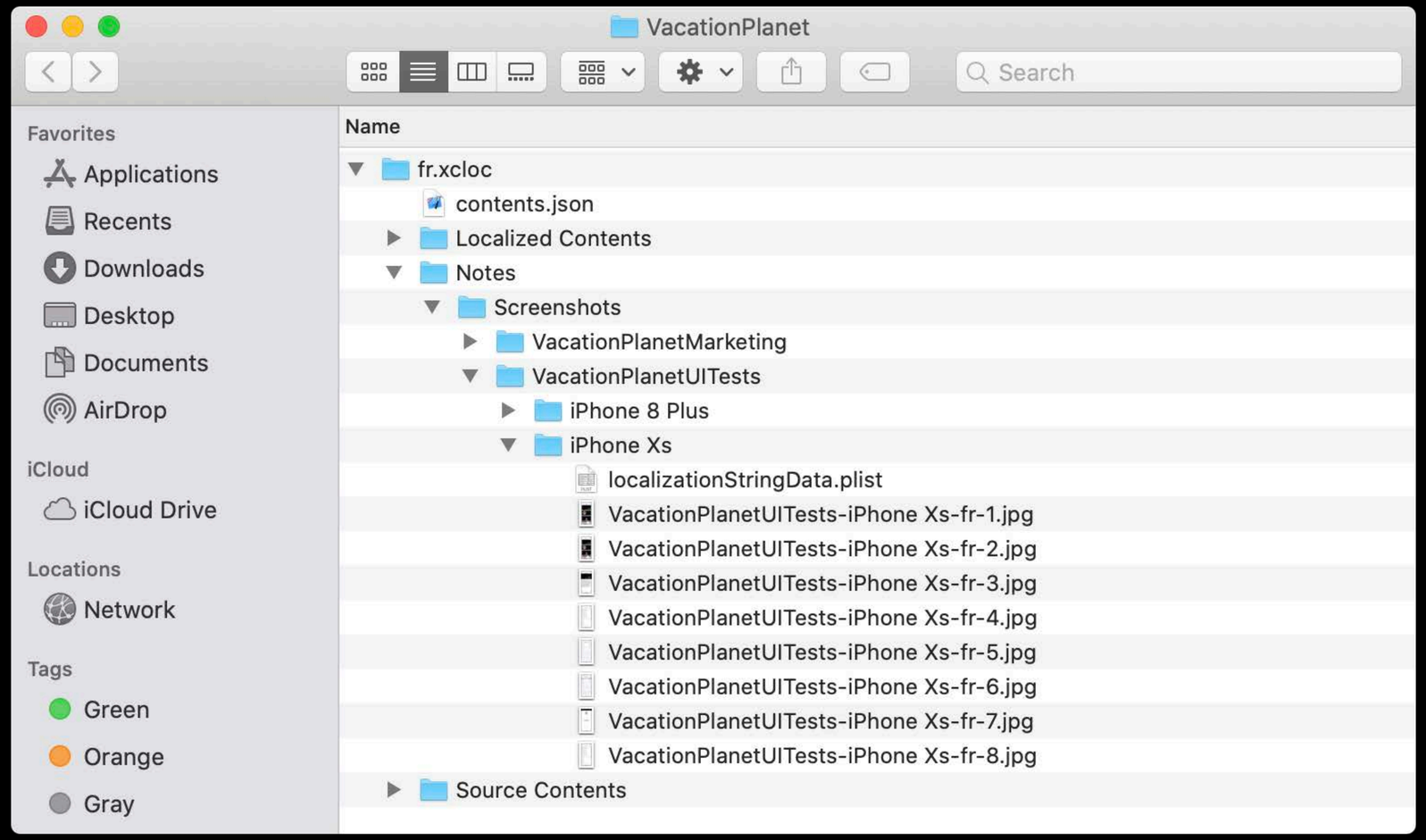
Test Attachments

Key	Type	Value
▼ Root	Array	(5 items)
▶ Item 0	Dictionary	(5 items)
▶ Item 1	Dictionary	(5 items)
▼ Item 2	Dictionary	(5 items)
bundleID		
bundlePath		lator/Devices/0FA3437B-FFA0-4309-8FC3
frame		
stringKey		
tableName	String	Main
▼ Item 3	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{127, 730}, {121, 48}}
stringKey	String	k1o-Eb-xsp.title
tableName	String	Main
▼ Item 4	Dictionary	(5 items)
bundleID	String	Apple.VacationPlanet
bundlePath	String	/Users/sararadi/Library/Developer/CoreSimulator/Devices/0FA3437B-FFA0-4309-8FC3
frame	String	{{252, 730}, {121, 48}}
stringKey	String	Slr-hY-46f.title
tableName	String	Main

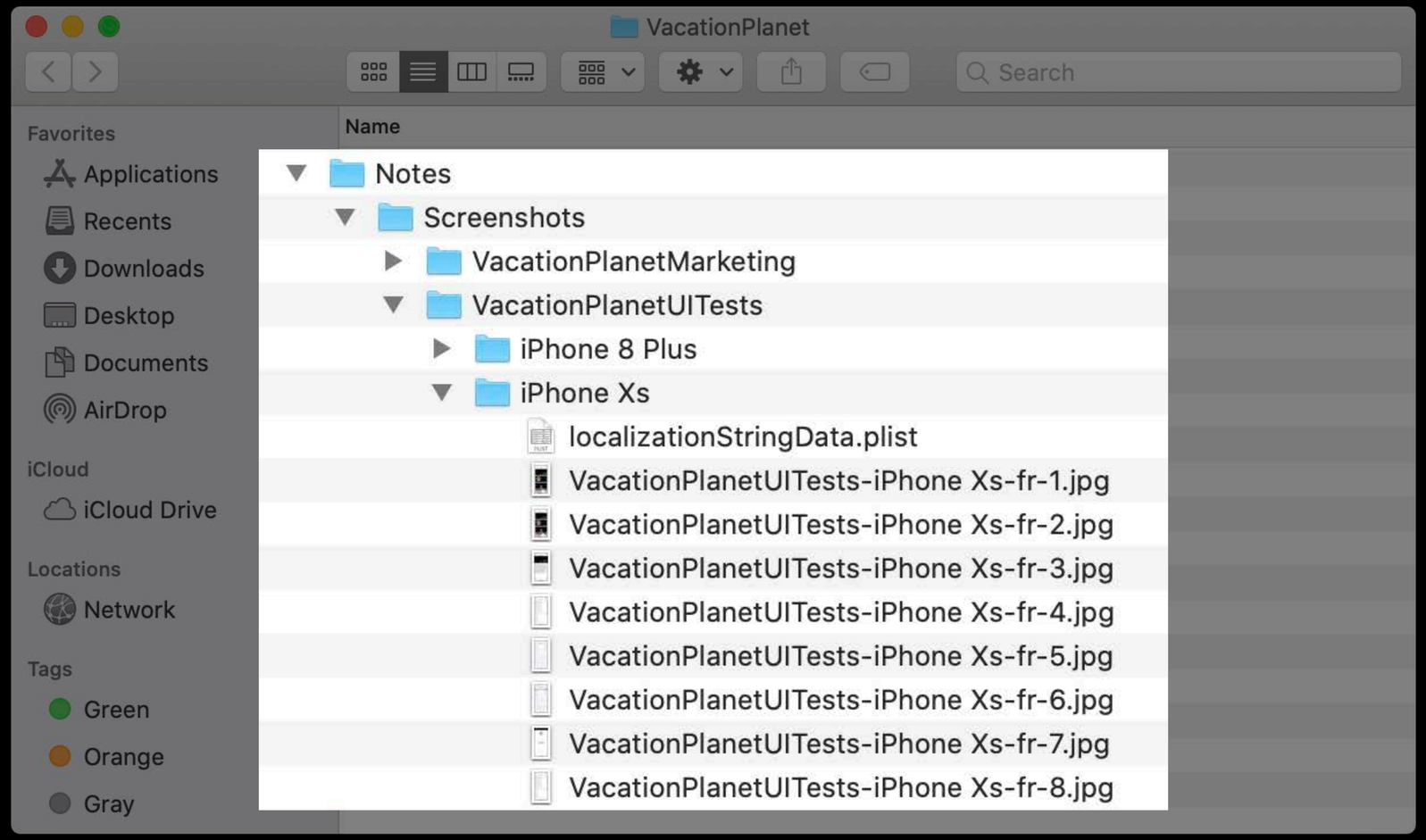
{{2, 730}, {121, 48}}



Xcode Localization Catalog



Xcode Localization Catalog



Demo

Localized screenshots

Vivian Robison, Software Engineer

Summary

Summary

App language setting

Summary

App language setting

Localization workflow improvements

Summary

App language setting

Localization workflow improvements

Localizing images

Summary

App language setting

Localization workflow improvements

Localizing images

Localized screenshots with XCTest

More Information

developer.apple.com/wwdc19/403

Internationalization Lab	Tuesday, 11:30
Internationalization Lab	Friday, 1:00

WWDC19